

FINANCIAL MANAGEMENT - III

(TY- BAF/ Semester-VI)

Prof. Agnus Anthony

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Ms. Agnus Anthony, M.Com

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ABOUT AUTHOR

Agnus Anthony Meledath is a faculty of the department of BAF program in Vidyalkar School of Information Technology, Mumbai. as an Assistant Professor, she is having teaching experience in Commerce and Management programs and her teaching experience of 12 years. She did MBA in Finance, M. Com in Advanced Accounting and M. Com in Accountancy. Her thought about education is “Getting education isn’t easy, and most students experience challenges during their degrees. The important thing is to believe in yourself and not give up.”

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ABOUT AUTHOR



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About Author



Amit Kabra is a currently faculty in department of BFM (BCom in Financial Markets) in Vidyalkar School of Information Technology, Mumbai. As an Assistant Professor, he is having teaching experience in Commerce and Management programs and his teaching experience is more than 8 years. His area of expertise is in Statistics and Finance subjects. His teaching philosophy is to enable students to holistically comprehend the course and enable them to apply the concepts learned in their professional endeavours. He believes in bringing the classroom to life with real-world examples and innovative technology.

He also has experience and knowledge in research. He has presented research papers in National and International Conferences and published various research paper in International Journal. He is currently doing the University of Mumbai's funded minor research project. Currently, He is pursuing Ph.D from University of Mumbai

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About Author

Prof. Chitra More is currently working as Assistant Professor of Law in the department of Bachelor of Management Studies Vidyalankar School of Information Technology, Wadala-(E) affiliated to University of Mumbai. She has done the master's degree of M. Com and MCA. She also holds LLM degree and cleared NET. She has rich experience of teaching Law and Accounts at graduate level.

She has also been regularly attending national seminars and conferences in Law. She firmly believes that the students deserve teachers who have a command over the subject, have the knack of teaching and supplemented with a lot of industrial experience. She has excellent equation with her students just like a parent-child should have.



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ABOUT AUTHOR



CA Dipti Shirodkar is a Chartered Accountant with over a decade of industries experience. She has been working in Vidyalankar School of Information Technology, Mumbai as an Assistant Professor. She has expertise in Research, Accounts and Finance subjects. Her thought about education is,

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About Author



J Gunasundari is a head of the department of BMS program in Vidyalankar School of Information Technology, Mumbai. As an Assistant Professor, she is having rich teaching experience in Commerce and Management programs and her teaching experience is more than 16 years. She is expertise in Accounts and Marketing subjects. Her thought about education is,

“Education is the only way to shape the society as more civilized one, which undergoes constant transformation by learning new skills”.

She also has rich experience and knowledge in research. She has presented many research papers in National and International Conferences and published various research paper in International Journal. She also done the University of Mumbai’s funded minor research project. Currently, She is pursuing Ph.D. from Amity University, Mumbai, India.

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About the Author



Ms. Kavitha Mohan is an Assistant Professor in Vidyalankar School of Information Technology, Mumbai. As an Assistant Professor, she is having teaching experience in Commerce and Management programs and her teaching experience is more than 6 years. She is expertise in Accounts subjects. Her thought about education is “Education gives individual an understanding of the whole world around us and it offers an opportunity to use that knowledge wisely”. She also has rich experience and knowledge in research. She has presented many research papers in National and International Conferences and published various research paper in International Journal. Currently, She is pursuing Ph.D from University of Mumbai, India.

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About Author



Pooja Jogu is a faculty of the department of BAF program in Vidyalankar School of Information Technology, Mumbai. As an Assistant Professor, she is having teaching experience in Commerce and Management programs and her teaching experience of 6 years. She did MBA in Finance, M. Com in Advanced Accounting and M. Com in Management. Her thought about education is “Education is the only way to shape the society as more civilized one, which undergoes constant transformation by learning new skills”.

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ABOUT AUTHOR



Ms. Prathma A Nemane is a Co-ordinator of M.Com program in Vidyalankar School of Information Technology, Mumbai.

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The teaching philosophy involves student's empowerment to think beyond the limits and have general awareness about the subjects.

She is interested in occult science and learnt many healing modalities. She possesses many certifications in Reiki healing, Sound Healing, Neuro Linguistic practitioner and Graphologist.

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ABOUT AUTHOR



Prof. Shreyas Bondre is an assistant professor in BAF program in Vidyasankar School of Information Technology, Mumbai.

He has done lot of activities for students to fill the gap between academics and industry. He is 6 years experienced in teaching taxation subject. To him education is "something which gives you identity, confidence to live, purpose of living life, ability to cater opportunities.

He believes a lot in professional examinations and practical implementation of studies in real life. He has presented many research papers in National and International Conferences. He has also cleared CA CPT, CS foundation, CS Executive levels of professional examinations.

He is currently pursuing CS Professional stage examination. According to him, "Enjoy the studies, enjoy the career, enjoy the life and happy learning".

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About Author

Ms. Lakshmi Pillai is an Assistant Professor in the Department of Mass Media, Vidyalankar School of Information Technology (VSIT), Wadala, Mumbai. Subjects taught include Business Communication, Foundation Course I and II, Gender, Media and Culture and Journalism subjects such as Current Affairs and Reporting among others. She is an eager participant in the publication committee of the institute as the convener of the college magazine and newsletter. She also actively pursues her interests in research. In addition to her academic interests, she actively explores the world of East-Asian popular culture and English literature.



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ABOUT AUTHOR



Prof. Geeta Sahu is an Assistant Professor in BSo.IT program at Vidyalanekar School of Information Technology, (VSIT), Mumbai. She has presented many research papers in National and International Conferences. She has cleared National Eligibility Test (NET) under University Grant Commission (UGC).



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As per revised syllabus of BSc IT Course under University of Mumbai w.e.f 2017-18

Numerical and Statistical Methods

(BSc. IT First Year: Second Semester)

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Aasha Chavan is an assistant professor in Information Technology program in Vidyalandkar School of Information Technology, Mumbai.

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FY B.SC IT

Green Computing

Prof. Akshatha C Jain
Prof Janhavi M vadke



VSIT | Vidyalankar School of
Information Technology

Green Computing

(B.Sc IT First Year: Second Semester)

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Ms. Janhavi M Vadke, M.C.A, SET

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SOFTWARE QUALITY ASSURANCE

*Asst. Prof. Janhavi vadke
& Asst. Prof. Akshatha Jain*



As per revised syllabus of BSc IT Course under University of Mumbai w.e.f 2017-18

SOFTWARE QUALITY ASSURANCE

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Prof. Amraja Shivkar
Prof. Maitreyi Joglekar

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As per revised syllabus of BSc IT Course under University of Mumbai w.e.f 2016-17

Microprocessor Architecture

(BSc IT First Year: Second Semester)

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Ms. Maitreyi Joglekar

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FYBSCIT
SEM II

Object Oriented Programming with C++

Prof. Ashwini Umesh Koyande
Prof. Beena Vinod Kapadia



Object Oriented Programming with C++

(IT First Year: Second Semester)

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OBJECT ORIENTED PROGRAMMING USING CORE JAVA

Ms. Ketaki Ghawali

Mr. Asif Rampurawala

Ms. Seema Murkar

Object Oriented Programming using Core Java

(B.Sc. IT Second Year: Fourth Semester)

Ms. Ketaki Ghawali, M.Sc. IT

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She has been working closely with the committee which works on the development of the institute’s official website.



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FYBSCIT
SEM II

Object Oriented Programming with C++

Prof. Ashwini Umesh Koyande
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Object Oriented Programming with C++

(IT First Year: Second Semester)

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SOFTWARE ENGINEERING

First Edition

SY BSc IT – Sem IV

Prof. Kimaya Shelar
Prof. Rajendra Patole

VSIT | Vidyalankar School of
Information Technology

Software Engineering

(BSc IT Second Year: Fourth Semester)

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M.Sc. Information Technology, B.Ed.

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Web Programming with HTML

Dr. Palavi Tawde



As per revised syllabus of BSc IT Course under University of Mumbai w.e.f 2017-18

Web Programming with HTML

(BSc. IT First Year: Second Semester)

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Computer Oriented Statistical Techniques

(Paper - 5)

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Computer Oriented Statistical Techniques

(BSC.IT Second Year: Fourth Semester)

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Numerical and Statistical Methods

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As per revised syllabus of BSc IT Course under University of Mumbai w.e.f 2017-18

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FYBSC.
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(Paper - 3)

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VSIT | Vidyalankar School of
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R Programming

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TY B.SC IT

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Ms. Ketaki Ghawali

Mr. Asif Rampurawala

Ms. Seema Murkar

Object Oriented Programming using Core Java

(B.Sc. IT Second Year: Fourth Semester)

Ms. Ketaki Ghawali, M.Sc. IT

Mr. Asif Rampurawala, M.Sc. Computer Science, UGC-NET

Ms. Seema Murkar, M.Sc. Computer Science, UGC-NET

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ABOUT THE AUTHOR



Ms. Ketaki Ghawali is an Assistant Professor of Department of Information Technology in Vidyalankar School of Information Technology. She is having teaching experience in Information Technology programs and her teaching experience is more than 8 years. Her Philosophy of teaching is “Try giving the students what you failed to receive during the course of your education”.

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Computer Graphics

Ms. Leena Jadhav
Ms. Rohini Desai



As per revised syllabus of BSc IT Course under University of Mumbai w.e.f 2017-18

Computer Graphics
(BSc. IT Second Year: Second Semester)

Leena Jadhav, M.C.A

Rohini Desai, M.E

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(BSc IT First Year: Second Semester)

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M. Tech. (Electronics and Telecommunication)

Vidyalankar School of Information Technology

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Numerical and Statistical Methods

Aasha Chavan
Prabal Deep Das
Geeta Sahu



As per revised syllabus of BSc IT Course under University of Mumbai w.e.f 2017-18

Numerical and Statistical Methods

(BSc. IT First Year: Second Semester)

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She has done lot of activities for students to fill the gap between academics and industry. She is 12 years experienced in teaching Mathematical and Programming subjects.

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First Edition

SY BSc IT – Sem IV

Prof. Kimaya Shelar
Prof. Rajendra Patole

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Software Engineering

(BSc IT Second Year: Fourth Semester)

Dr. Kimaya Shelar

Phd in Computer Science, MCA

Mr. Rajendra Patole

M.Sc. Information Technology, B.Ed.

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Computer Graphics

Ms. Leena Jadhav
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Introduction to Embedded System

*Sabir Mo'in Shaikh
Umesh S Koyande*



As per revised syllabus of BSc IT Course under University of Mumbai w.e.f 2018-19

Introduction to Embedded System

(BSc. IT Second Year: Fourth Semester)

Sabir Moin Moinuddin Shaikh

Umesh Suresh Koyande

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2	<p>Chapter 4: Embedded Systems – Application and Domain Specific: Application specific – washing machine, domain specific - automotive.</p> <p>Chapter 5: Embedded Hardware: Memory map, i/o map, interrupt map, processor family, external peripherals, memory – RAM , ROM, types of RAM and ROM, memory testing, CRC ,Flash memory.</p> <p>Chapter 6: Peripherals: Control and Status Registers, Device Driver, Timer Driver - Watchdog Timers.</p>	<p>43-55</p> <p>55-70</p> <p>71-80</p>
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Computer Oriented Statistical Techniques

(Paper - 5)

Prof. Geeta Sahu

Prof. Shajil Kumar

Prof. Aasha Chavan



Computer Oriented Statistical Techniques

(BSC.IT Second Year: Fourth Semester)

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FYBSC.
DATA SCIENCE

R Programming

(Paper - 3)

Prof. Shajil Kumar
Prof. Geeta Sahu



VSIT | Vidyalankar School of
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R Programming

(BSc.DS First Year: Second Semester)

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Web Programming

(USIT203)

(Core Subject)

F.Y.B.Sc. (Information Technology) Semester II

Smruti Nanavaty
Sohrab Ardeshar Vakharia

Muddasar Qureshi
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Web Programming

(USIT203)

F. Y. B.Sc. (Information Technology) Semester II
(Mumbai University)

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with effect from Academic Year 2016-2017

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Web Programming (USIT203)

Prof. Smruti Nanavati, Prof. Muddasar Qureshi, Prof. Sohrab Ardeshar Vakharia, Prof. Shajilkumar
F.Y. B.Sc. (Information Technology) Semester II – Mumbai University

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Preface

Dear students,

We are extremely happy to come out with this book on “**Web Programming**” for you. We have divided the subject into small chapters so that the topics can be arranged and understood properly. The topics within the chapters have been arranged in a proper sequence to ensure smooth flow of the subject.

A large number of solved examples have been included. So, this book will cater all your needs for this subject.

We present this book in the loving memory of **Late Shri. Pradeepji Lunawat**, our source of inspiration and a strong foundation of “**TechKnowledge Publications**”. He will always be remembered in our heart and motivate us to achieve our milestone.

We are thankful to Mr. Shital Bhandari, Shri. Arunoday Kumar and Shri. Chandroday Kumar for the encouragement and support that they have extended. We are also thankful to the staff members of TechKnowledge Publications and others for their efforts to make this book as good as it is. We have jointly made every possible efforts to eliminate all the errors in this book. However if you find any, please let us know, because that will help us to improve further.

We are also thankful to our family members and friends for patience and encouragement.

– Authors

Syllabus

Unit I

Internet and the World Wide Web :

What is Internet ? Introduction to internet and its applications, E-mail, telnet, FTP, e-commerce, video conferencing, e-business. Internet service providers, domain name server, internet address, World Wide Web (WWW): World Wide Web and its evolution, uniform resource locator (URL), browsers – internet explorer, Netscape navigator, opera, Firefox, chrome, Mozilla. search engine, web saver – apache, IIS, proxy server, HTTP protocol.

HTML5 : Introduction, Why HTML5 ? Formatting text by using tags, using lists and backgrounds, Creating hyperlinks and anchors. Style sheets, CSS formatting text using style sheets, formatting paragraphs using style sheets. **(Refer Chapters 1 and 2)**

Unit II

HTML5 Page layout and navigation :

Creating navigational aids: planning site organization, creating text based navigation bar, creating graphics based navigation bar, creating graphical navigation bar, creating image map, redirecting to another URL, creating division based layouts: HTML5 semantic tags, creating divisions, creating HTML5 semantic layout, positioning and formatting divisions.

HTML5 Tables, Forms and Media :

Creating tables: creating simple table, specifying the size of the table, specifying the width of the column, merging table cells, using tables for page layout, formatting tables: applying table borders, applying background and foreground fills, changing cell padding, spacing and alignment, creating user forms: creating basic form, using check boxes and option buttons, creating lists, additional input types in HTML5, Incorporating sound and video: audio and video in HTML5, HTML multimedia basics, embedding video clips, incorporating audio on web page.

(Refer Chapter 3)

Unit III

Java Script :

Introduction, Client-Side JavaScript, Server-Side JavaScript, JavaScript Objects. JavaScript Security.

Operators : Assignment Operators, Comparison Operators, Arithmetic Operators, % (Modulus), ++(Increment), --(Decrement), (Unary Negation), Logical Operators, Short-Circuit Evaluation, String Operators, Special Operators, ? (Conditional operator), (Comma operator), delete, new, this, void.

Statements : Break, comment, continue, delete, do...while, export, for, for...in, function, if...else, import, labelled, return, switch, var, while, with.

Core JavaScript (Properties and Methods of Each) : Array, Boolean, Date, Function, Math, Number, Object, String, RegExp.

Document and its associated objects: document, Link, Area, Anchor, Image, Applet, Layer
Events and Event Handlers : General Information about Events, Defining Event Handlers, event, onAbort, onBlur, onChange, onClick, onDblClick, onDragDrop, onError, onFocus, onKeyDown, onKeyPress, onKeyUp, onLoad, onMouseDown, onMouseMove, onMouseOut, onMouseOver, onMouseUp, onMove, onReset, onResize, onSelect, onSubmit, onUnload.

(Refer Chapter 4)

Unit IV

PHP :

Why PHP and MySQL ? Server-side scripting, PHP syntax and variables, comments, types, control structures, branching, looping, termination, functions, passing information with PHP, GET, POST, formatting form variables, superglobal arrays, strings and string functions, regular expressions, arrays, number handling, basic PHP errors/problems.

(Refer Chapter 5)

Unit V

Advanced PHP and MySQL :

PHP/MySQL Functions, Integrating web forms and databases, Displaying queries in tables, Building Forms from queries, String and Regular Expressions, Sessions, Cookies and HTTP, E-Mail.

(Refer Chapter 6)

List of Practical

1. Use of Basic Tags

- Design a web page using different text formatting tags.
- Design a web page with links to different pages and allow navigation between web pages.
- Design a web page demonstrating all Style sheet types

2. Image maps, Tables, Forms and Media

- Design a web page with Imagemaps.
- Design a web page demonstrating different semantics
- Design a web page with different tables. Design a webpages using table so that the content appears well placed.
- Design a web page with a form that uses all types of controls.
- Design a web page embedding with multimedia features.

3. Java Script

- Using JavaScript design, a web page that prints factorial/Fibonacci series/any given series.
- Design a form and validate all the controls placed on the form using Java Script.
- Write a JavaScript program to display all the prime numbers between 1 and 100.

- d. Write a JavaScript program to accept a number from the user and display the sum of its digits.
- e. Write a program in JavaScript to accept a sentence from the user and display the number of words in it. (Do not use split () function).
- f. Write a java script program to design simple calculator.

4. Control and looping statements and Java Script references

- a. Design a web page demonstrating different conditional statements.
- b. Design a web page demonstrating different looping statements.
- c. Design a web page demonstrating different Core JavaScript references (Array, Boolean, Date, Function, Math, Number, Object, String, regExp).

5. Basic PHP I

- a. Write a PHP Program to accept a number from the user and print it factorial.
- b. Write a PHP program to accept a number from the user and print whether it is prime or not.

6. Basic PHP II

- a. Write a PHP code to find the greater of 2 numbers. Accept the no. from the user.
- b. Write a PHP program to display the following Binary Pyramid:

```
1
0 1
1 0 1
0 1 0 1
```

7. String Functions and arrays

- a. Write a PHP program to demonstrate different string functions.
- b. Write a PHP program to create one dimensional array.

8. PHP and Database

- a. Write a PHP code to create:
 - Create a database College
 - Create a table Department (Dname, Dno, Number_Of_faculty)
- b. Write a PHP program to create a database named "College". Create a table named "Student" with following fields (sno, sname, percentage). Insert 3 records of your choice. Display the names of the students whose percentage is between 35 to 75 in a tabular format.
- c. Design a PHP page for authenticating a user.

9. Email

- a. Write a program to send email with attachment.

10. Sessions and Cookies

- a. Write a program to demonstrate use of sessions and cookies.

UNIT I

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Security in Computing

Ms.Spruha More



As per revised syllabus of BSc IT Course under University of Mumbai w.e.f 2017-18

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TY B.SC IT

Principle of Geographic Information System

A Practical Handbook

Assistant Prof. Dr. Ujwala Madhav Sav

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Introduction to Embedded System

*Sabir Mo'in Shaikh
Umesh S Koyande*



As per revised syllabus of BSc IT Course under University of Mumbai w.e.f 2018-19

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2	<p>Chapter 4: Embedded Systems – Application and Domain Specific: Application specific – washing machine, domain specific - automotive.</p> <p>Chapter 5: Embedded Hardware: Memory map, i/o map, interrupt map, processor family, external peripherals, memory – RAM , ROM, types of RAM and ROM, memory testing, CRC ,Flash memory.</p> <p>Chapter 6: Peripherals: Control and Status Registers, Device Driver, Timer Driver - Watchdog Timers.</p>	<p>43-55</p> <p>55-70</p> <p>71-80</p>
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ABOUT AUTHOR



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She also has rich experience and knowledge in research. She has presented many research papers at National and International Conferences and published various research papers in International Journal. Currently, she is pursuing a PhD from the University of Mumbai.

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Mr. Sagar Gaikwad has completed his M.Com in the subject of Management, MMS in the Subject of Management, SET in the subject of Commerce, NET in the subject of Commerce, NET in the subject of Management and currently pursuing Ph.D in the subject of commerce from University of Mumbai.

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He was invited as resource person for online international webinar on topic "Workplace Culture the Great Game of Business" organised by Mirwais Neeka Institute of Higher Education Afghanistan, Islamic Republic of Afghanistan, Ministry of Education, Afghanistan. He had chaired a session in The 2021 International Conference On Decision Aid Sciences and Application organised School of Management, the Business Excellence and Logistics Research Centre (BE-Logist) and the Office of Border Economy and Logistics Study (OBELS), Mae Fah Luang University in partnership with College of Business Administration University of Bahrain and NEOMA Business School on 23rd - 25th March 2022.

He was invited as a resource person for many national and international webinars and FDP like UGC, University of Mumbai, Parul University Gujarat, Kirti College Mumbai, NES Ratnam College, etc.

He has presented research paper in many national and international conferences. He is an expert in data analysis using SPSS, AMOS, SMART PLS, R Studio, etc. Currently he has 14 publications to his credit in UGC Care and Scopus Indexed journals. He is also a recipient of best research paper in the International Conference organized by VSIT, Mumbai.

Prof. Swapna Kadam

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MESSAGE FROM PRINCIPAL

Vidyalankar School of Information Technology (VSIT), a Commerce, IT and Management college affiliated to University of Mumbai, has always been organising activities pertaining to the current topics of interest to the academicians, industrialists, students, and all other stakeholders of an education system. The theme of V-CMT 2021 - an international multi-disciplinary e-Conference - "Transforming with Changing Dimension in Industry and Education" falls in the same tradition. V-CMT 2021 has encouraged a fair and free participation of scholars in this exercise. We have received many good research papers in various tracks. Even the students have expressed themselves through research papers on current issues.



I take this opportunity to thank everyone who has contributed towards a fruitful organisation of the Conference. I would like to thank our Guest of Honour Dr. Ing. Yashodhan Gokhale and chief guest Dr. P. Sekhar and our Expert Panelists- Ms. Nusrat Mujawar, Mr. Abhishek Gupta, Dr. Anuradha Mujawar and Moderator of the Panel Discussion Dr. Swagatika Nanda for investing their valuable time for this conference. I would also like to acknowledge the efforts of the college management, faculty members, the organising committee, and all the other faculty members and staff of Information Technology, Commerce, Management and Arts Departments of VSIT.

I would also like to thank our Session Chairs- Dr. Thirvukurussu, Dr. Mary Immaculate Sheela Lourdusamy, Dr. Ajit More, Dr. Bageshree P. Bangera Bandekar, Dr. Sarika Chouhan and Dr. Poonam Mirwani for their valuable feedbacks and encouragement to the presenters. Their critical reviews of the papers presented, and their valuable feedback would enrich authors to upgrade their papers.

Last but not the least, I would like to extend my gratitude to all paper presenters and delegates who have made it possible for us to organise such a One Day International Multi-Disciplinary e-Conference V-CMT 2021.

Dr. Rohini Kelkar

Principal,

Vidyalankar School of Information Technology,
Wadala, Mumbai

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Industry 4.0

Track 1



A Study on the reliability of Financial Advertisements on Investment Decisions of Individuals

Ms. Ashvina Paul Raj

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Student - M. Com Part II, Narsee Monjee
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(Autonomous)

ABSTRACT

Financial Advertisements are advertising related to financial products and services of banks, insurance companies, mutual funds and other financial institutions. These advertisements mainly appear in print, T.V and digital medium. These advertisements can play a major role in informing individuals about the various financial products and services available to them. This study is an attempt to study the reliability of financial advertisements on the investment decisions of individuals residing in Mumbai and Lucknow. This study will attempt the use of suitable statistical tools and techniques to understand whether investors rely on advertisements for investment decisions or not. An attempt will also be made to find out the factors which could enhance the reliability of these advertisements on the investment decisions of individuals. The emphasis of the study would be on finding out the interrelationship between financial ads and investment decisions of individuals and the risk factors related to investment decisions based on the same.

Keywords: Financial Advertisements, Financial Products and Services, Investment Decisions

1. INTRODUCTION

“The most powerful element in advertising is the truth.” – Bill Bernbach

The Cambridge Dictionary defines Financial Advertising as “the advertising of financial businesses and services such as banks, investment companies, loans, and mortgages.”

This study deals with the reliability of Financial Advertisements on Investment Decisions of Individuals. This study is carried out with special reference to investment decisions of individual investors on the basis of financial advertisements in terms of mutual funds, insurance and shares.

The purpose of any advertisement is to grab attention, then to generate interest, to convince, so to create the belief. If an advertisement contains these three qualities of success, it is a successful advertisement (Lewis, 1899). The AIDA Model tries to grab attention through:

A - Attention (Awareness): It is the process of attracting the attention of the customer. In developing an advertising program, marketing managers should always start by identifying the targeted audience and its reasons to purchase a specific product or service.

I - Interest: This can be defined as the process of raising customer interest by focusing on and demonstrating advantages and benefits (instead of focusing on features, as in traditional advertising).

D - Desire: It is the way to convince customers that they want and desire the product or service and that it will satisfy their needs.

A - Action: It is the final phase that leads customers towards taking action i.e. purchasing and doing positive word of mouth.

Financial Advertisements are generally known for creating fear factor eg. Insurance Ads and are generally not considered very reliable for making investment decisions.

2. RESEARCH METHODOLOGY

This study is conducted in two major cities where the researchers reside namely – Mumbai and Lucknow and has a sample size of total 100 respondents (50 each in Mumbai and Lucknow respectively) which responded to the questionnaire.

Sampling Method: Non-Probability; Convenience Sampling

Data Collection: Primary – Through Questionnaire; Secondary – Through Books, Magazines, Research Papers and so on.

Limitations: Time Constraints

Objectives of the Study

- The study intends to find out the reliability of Financial Advertisements for investment decisions
- To find out the effectiveness of financial advertisements in letting the investors know about various investment avenues and all other relevant information
- To find out whether financial advertisements are the main source of investment decisions
- To find out whether financial advertisements are reliable
- To find out whether financial advertisements are ethical
- To assess whether there is equal reliability on Financial Advertisements in Mumbai and Lucknow

3. LITERATURE REVIEW

Mutual funds use advertisements as a way to communicate with investors. Due to increased competition, advertising for mutual funds has been increasing (Jordan and Kaas, 2002). Jain and Wu (2000) found a strong cause-and-effect relationship between mutual funds advertising and investment decisions. Thus, advertisements provide us with a window into the assumptions made by mutual funds about their investors' decision-making process.

As per the study carried out by Bruce A. Huhmann and Nalinaksha Bhattacharyya on “Does Mutual Funds Advertising provide necessary investment information?” the researchers concluded that mutual funds advertisement isn't providing the necessary investment relevant and reliable information. Various tools and techniques were adopted for the same.

Mutual Funds were introduced in India by UTI in 1963 and it enjoyed a monopoly in the Indian mutual fund market until 1987, and post that government-controlled Indian financial companies established their own funds, including State Bank of India, Canara Bank and by Punjab National Bank.

So, in India also the advertisement of mutual fund by various bank and financial institutions are getting increased day by day aiming to make more people aware of the investment in

mutual fund and the risk and gains related to mutual funds. According to MutualFundIndia.com, currently there are more than eleven thousand mutual fund schemes offered by forty companies in India. The most prevalent companies among these, based on QAAUM (Quarterly Average Asset Under Management), are ICICI Prudential, HDFC Mutual Fund, Birla Sun Life Mutual Fund, Reliance Mutual Fund, SBI Mutual Fund, and UTI Mutual Fund. These six companies account for almost 65% of the total QAAUM.

For Mutual Funds related financial advertisements there are guidelines are prescribed by SEBI. A review in 2017 allowed for celebrity endorsements at industry level but not for promoting a particular scheme. Permission has to be taken for such advertisements. The CAGR of the performance of the Mutual Funds in the past 1, 3 or 5 years needs to be advertised.

In a study conducted by “Bhavik U. Swadia”: A STUDY ON INVESTMENT IN SHARES, AND COMPARATIVE ANALYSIS OF BROKING FIRMS” also discusses about the impact of financial advertisements in terms of broking firms and investment in shares. The guidelines of SEBI related to advertisements of shares are to be adhered to.

In a study conducted by Ms Sunayna Khurana on: “Customer Preferences in Life Insurance Industry in India” the importance of insurance is emphasized upon. The main purpose is of this paper is to find out the consumer preferences towards life insurance. A minor part of the paper covered the customer opinions about insurance ads.

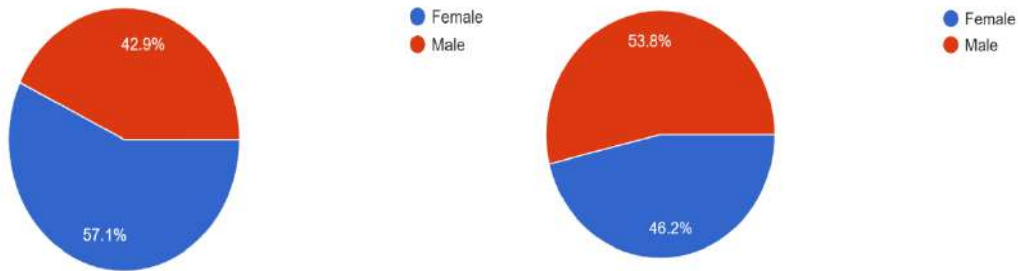
IRDAI has issued Master Circular is issued under Section 34 (1) of the Insurance Act, 1938 read with Section 14 (1), 14 (2) (e) of the IRDA Act, 1999, to protect the interests of the insuring public, enhance their level of confidence on the nature of sales material used and ultimately encourage fair business practices. They are to be considered as the minimum standards to be adhered to, in addition to compliance with the IRDA (Insurance Advertisements and Disclosure) Regulations, 2000 (hereinafter referred to as ‘Advertisement Regulations’) and the code of conduct prescribed by the Advertisement Standards Council of India (ASCI) and any other laws, regulations as applicable. These provisions reinforce the extant regulations on all promotional communications with policyholders/prospective policyholders or targeted market segment with the objective of soliciting insurance business or otherwise.

4. DATA ANALYSIS AND INTERPRETATION

The data collected from 100 Respondents (50 from Mumbai and 50 from Lucknow) throws light on the opinion of investors about Financial Advertisements related to Mutual Funds, Insurance and Shares.

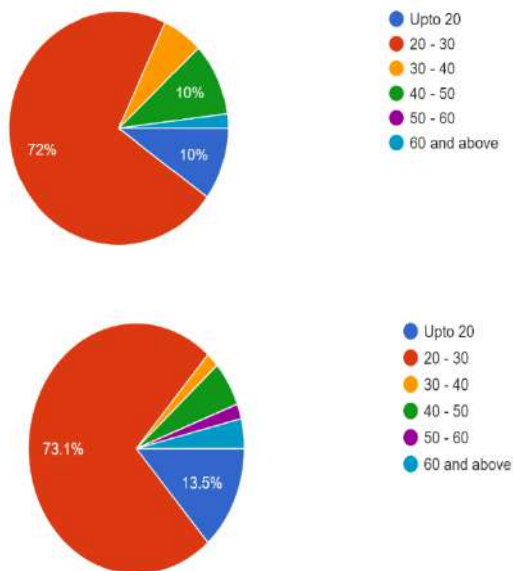
The following are the summary of responses:

- Gender of Respondents:



In Mumbai, the respondents were 42.9% (Female) and 57.1% (Male) and in Lucknow 53.8% were males and 46.2% were females.

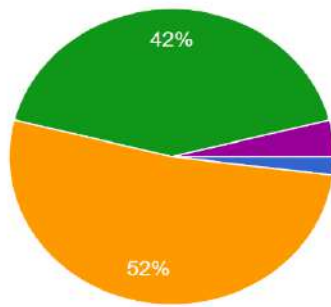
- Age Group of Respondents:



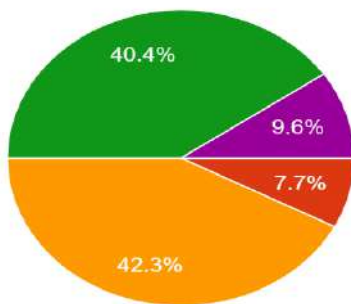
The major respondents of Mumbai and Lucknow were of the age group 20-30 and the findings are a reflection of this age group.

- Educational Qualification

Mumbai



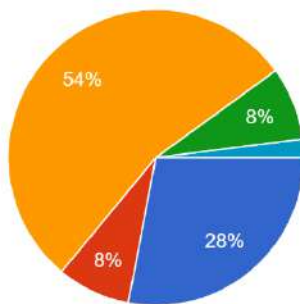
Lucknow



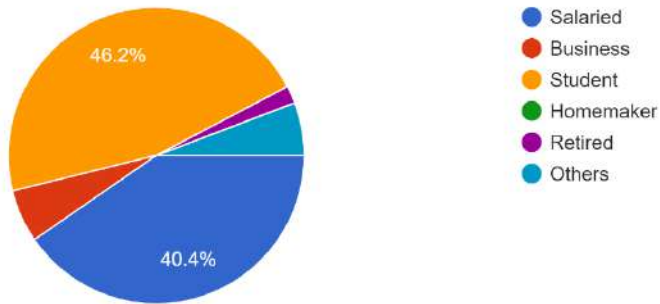
Majority of the Respondents Are Post Graduates and Graduates

- Occupation

Mumbai



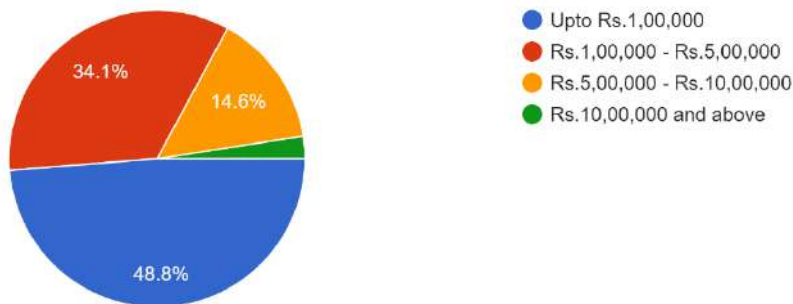
Lucknow



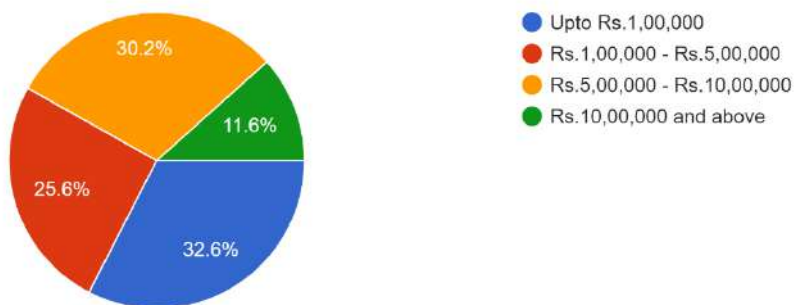
Majority of the respondents are the student community.

- Income Group of Respondents

Mumbai

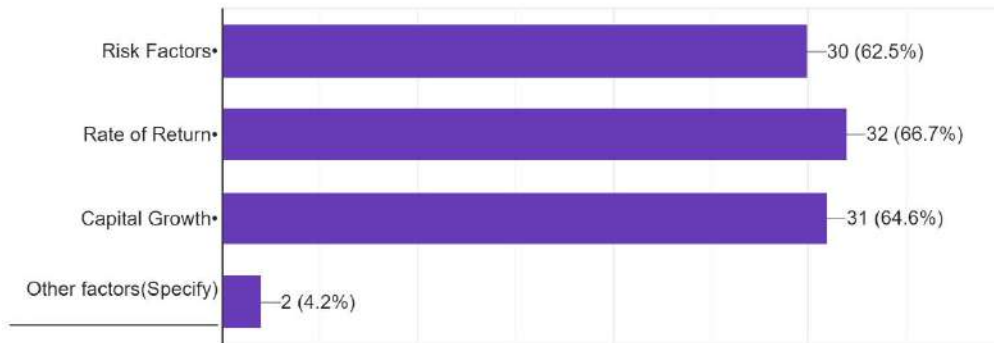


Lucknow

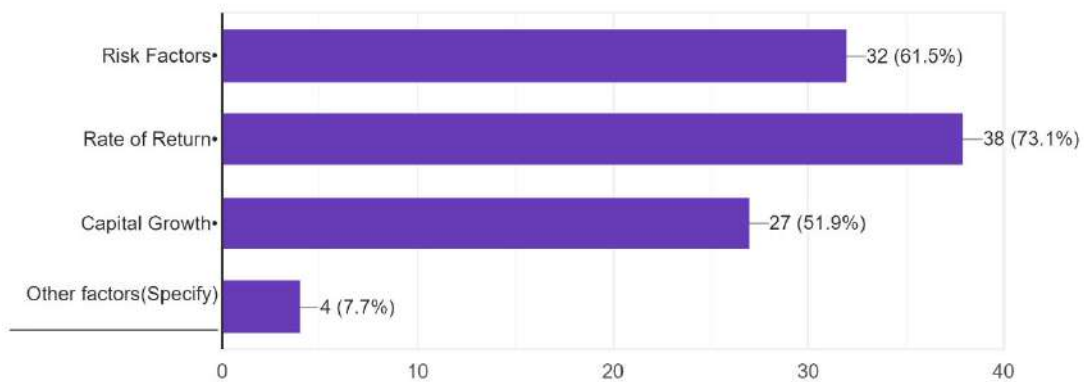


Major respondents i.e. 48.8% and 32.6% respectively in Mumbai and Lucknow were of the income group of upto Rs.1,00,000 p.a. and hence the responses could be based on that

- Aspects which make Financial Advertisements more reliable(Mumbai):

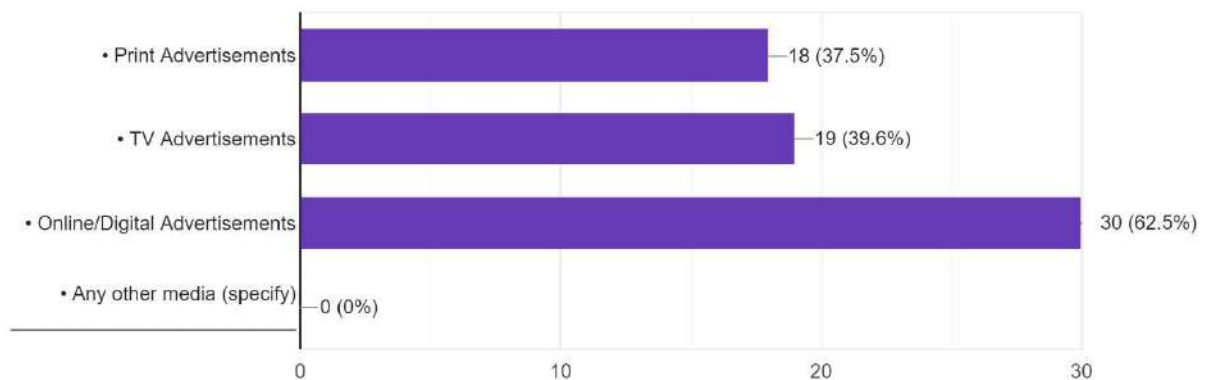


- Aspects which make Financial Advertisements more reliable(Lucknow)

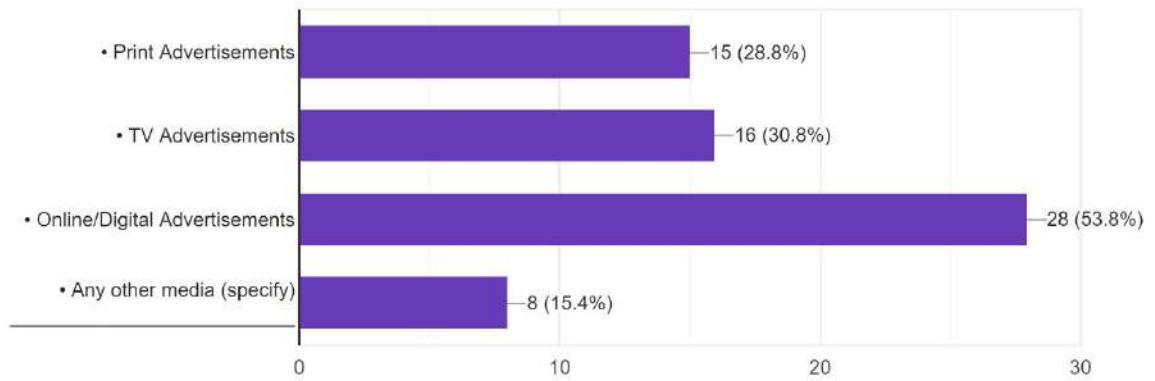


Rate of Return is a feature which most of the respondents would like to know correctly to be able to make investments based on financial advertisements.

- Preferred Media for Financial Advertisement:
Mumbai



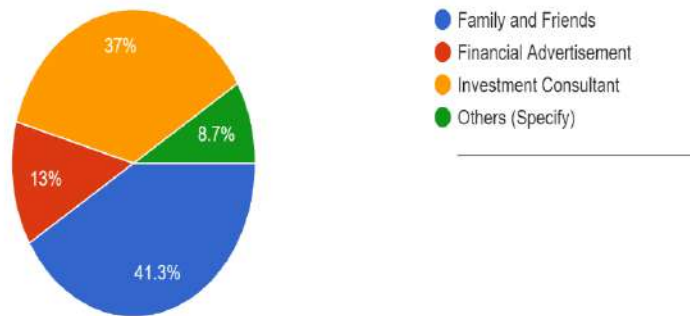
Lucknow



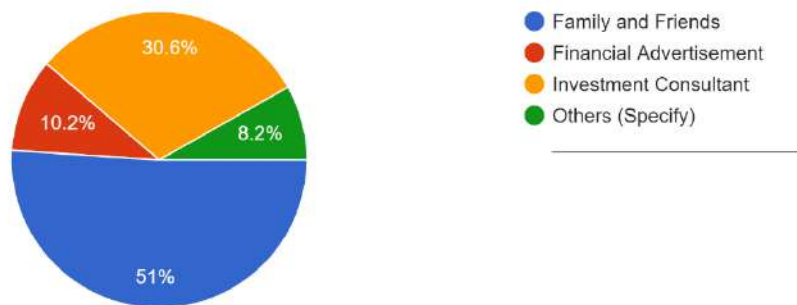
The most preferred medium of financial advertisements in both the cities is online/digital advertisements.

- Source of Information for making investments

Mumbai:



Lucknow



Financial Advertisements aren't considered a major source of information for investments in both the cities.

The study has made use of the following statistical tools and techniques:

- Cronbach's Alpha (α) for testing the internal reliability of the data
- Non-Parametric Test: Chi Square for testing of the hypothesis
- Non-Parametric Test: Mann Whitney U Test for finding out whether there is a difference in the reliability rankings between Mumbai and Lucknow responses

A. Cronbach's Alpha (α):

Cronbach Alpha was performed for the Likert Scale Responses (Strongly Agree -5 and Strongly Disagree 1) based on Investors opinions about Financial Advertisement:

No of items	10
Sum of the Items variance (V_i)	8.996407
Variance for total score of all respondents (V_t)	38.77414
Cronbach's Alpha(α)	0.85331

Cronbach's Alpha (α) Interpretation:

Cronbach's Alpha	Internal Consistency
$\alpha \geq 0.9$	Excellent
$0.9 > \alpha \geq 0.8$	Good
$0.8 > \alpha \geq 0.7$	Acceptable
$0.7 > \alpha \geq 0.6$	Questionable
$0.6 > \alpha \geq 0.5$	Poor
$0.5 > \alpha$	Unacceptable

The Cronbach's Alpha(α) is 0.85331. This means that the internal reliability of the data is Good.

B. Chi Square(X^2):

The Chi Square was conducted for test of association between the variables.

Hypothesis 1: Investment Decisions Based on Financial Advertisements:

Observed Responses:

Yes	No	Maybe	Total
21	55	24	100

Degree of Freedom = $(C-1) = (3-1) = 2$

Df 2, 0.05 (At level of significance 5%) = 5.991 (Critical Value)

CV= 5.991

$$X^2 = 21.97$$

Conclusion – We will reject H0 as $X^2 > CV$

The P-Value is .000017. The result is significant at $p < .05$.

The smaller the p-value, the stronger the evidence that you should reject the null hypothesis. So, it means that investment decisions are based on financial advertisement.

Hypothesis 2:

H0: Financial advertisements are not reliable for investment decisions

H1: Financial advertisements are reliable for investment decisions

Observed Responses:

Agree	Strongly Agree	Neutral	Disagree	Strongly Disagree	Total
24	6	52	14	4	100

Chi-Square (X^2) = 76.4

Degree of Freedom = (C-1) = (5-1) = 4

Df 4, 0.05 (At level of significance 5%) = 9.488 (Critical Value)

CV= 9.488

The P-Value is $< .00001$. The result is significant at $p < .05$.

Conclusion – We will reject H0 as $X^2 > CV$

So, it means that financial advertisements are reliable for investment decisions.

Hypothesis 3: Information about Different Avenues of Investment is available through Financial Advertisements

H1: Financial advertisements give idea about different avenues of investments and varied financial products and services.

H0: Financial advertisements does not give idea about different avenues of investments and varied financial products and services.

Observed Responses

Agree	Strongly Agree	Neutral	Disagree	Strongly Disagree	Total
57	17	18	5	3	100

Degree of Freedom = (C-1) = (5-1) = 4

Df 4, 0.05 (At level of significance 5%) = 9.488 (Critical Value)

CV= 9.488

$$X^2 = 71.35$$

The P-Value is $< .00001$. The result is significant at $p < .05$.

Conclusion – We will reject H_0 as $X^2 > CV$

So, it means that financial advertisements give idea about different avenues of investments and varied financial products and services.

Hypothesis 4: Financial Advertisements convey all relevant information about financial products and services

H_0 : Financial Advertisements are not able to convey all relevant information about financial products and services.

H_1 : Financial Advertisements are able to convey all relevant information about financial products and services.

Observed Responses

Agree	Strongly Agree	Neutral	Disagree	Strongly Disagree	Total
30	5	38	21	6	100

Degree of Freedom = $(C-1) = (5-1) = 4$

Df 4, 0.05 (At level of significance 5%) = 9.488 (Critical Value)

CV= 9.488

$X^2 = 42.3$

The P-Value is $< .00001$. The result is significant at $p < .05$.

Conclusion – We will reject H_0 as $X^2 > CV$

So, it means that financial advertisements are able to convey all relevant information about financial products and services.

Hypothesis 5: Whether Financial Advertisements give a clear idea about benefits of investments

H_0 : Financial Advertisements does not give a clear idea about the benefits of the investments i.e. mutual funds, insurance policies and shares.

H_1 : Financial Advertisements give a clear idea about the benefits of the investments i.e. mutual funds, insurance policies and shares.

Observed Responses

Agree	Strongly Agree	Neutral	Disagree	Strongly Disagree	Total
32	7	35	21	5	100

Degree of Freedom = $(C-1) = (5-1) = 4$

Df 4, 0.05 (At level of significance 5%) = 9.488 (Critical Value)

CV= 9.488

$X^2 = 38.20$

The P-Value is < .00001. The result is significant at $p < .05$.

Conclusion – We will reject H_0 as $X^2 > CV$

So, it means that financial advertisements give a clear idea about the benefits of the investments i.e. mutual funds, insurance policies and shares.

Hypothesis 6:

H_0 : Financial Advertisements does not guide investor in the right direction.

H_1 : Financial Advertisements guide investor in the right direction.

Observed Responses

Agree	Strongly Agree	Neutral	Disagree	Strongly Disagree	Total
30	7	40	14	9	100

Degree Of Freedom = $(C-1) = (5-1) = 4$

Df 4, 0.05 (At level of significance 5%) = 9.488 (Critical Value)

CV= 9.488

$X^2 = 41.3$

The P-Value is < .00001. The result is significant at $p < .05$.

So, it means that financial advertisements guide investor in the right direction shares.

Hypothesis 7: Financial advertisements could be the main source of investment information.

H_0 : Financial Advertisements is not the main source of investment information.

H_1 : Financial Advertisements could be the main source of investment information.

Observed Responses

Agree	Strongly Agree	Neutral	Disagree	Strongly Disagree	Total
32	3	28	21	16	100

Degree Of Freedom = $(C-1) = (5-1) = 4$

Df 4, 0.05 (At level of significance 5%) = 9.488 (Critical Value)

CV= 9.488

$X^2 = 25.70$

The P-Value is $< .00001$. The result is significant at $p < .05$.

Conclusion – We will reject H_0 as $X^2 > CV$

So, it means that financial advertisements could be the main source of investment information.

Hypothesis 8: Whether Financial Advertisements offer recall value

H_0 : Financial Advertisements does not offer recall value while choosing investment avenues.

H_1 : Financial Advertisements offer recall value while choosing investment avenues.

Observed Responses

Agree	Strongly Agree	Neutral	Disagree	Strongly Disagree	Total
31	5	46	15	3	100

Degree Of Freedom = $(C-1) = (5-1) = 4$

Df 4, 0.05 (At level of significance 5%) = 9.488 (Critical Value)

CV= 9.488

$X^2 = 67.25$

The P-Value is $< .00001$. The result is significant at $p < .05$.

Conclusion – We will reject H_0 as $X^2 > CV$

So, it means that financial advertisements does not offer recall value while choosing investment avenues.

Hypothesis 9: Whether Financial Advertisements does not provide the right sources to confirm the information

H_0 : Financial Advertisements does not provide the right sources to confirm the information.

H_1 : Financial Advertisements provide the right sources to confirm the information.

Observed Responses

Agree	Strongly Agree	Neutral	Disagree	Strongly Disagree	Total
25	1	46	20	8	100

Degree Of Freedom = $(C-1) = (5-1) = 4$

Df 4, 0.05 (At level of significance 5%) = 9.488 (Critical Value)

CV= 9.488

$$X^2 = 60.03$$

The P-Value is $< .00001$. The result is significant at $p < .05$.

Conclusion – We will reject H_0 as $X^2 > CV$

So ,it means that financial advertisements provide the right sources to confirm the information.

Hypothesis 10: Whether it is riskier to make investment decisions based only on financial advertisements.

H_0 : It is not riskier to make investment decisions based only on financial advertisements.

H_1 : It is riskier to make investment decisions based only on financial advertisements.

$$\text{Degree Of Freedom} = (C-1) = (5-1) = 4$$

$$Df\ 4, 0.05 \text{ (At level of significance } 5\% \text{)} = 9.488 \text{ (Critical Value)}$$

$$CV = 9.488$$

$$X^2 = 56$$

The P-Value is $< .00001$. The result is significant at $p < .05$.

Conclusion – We will reject H_0 as $X^2 > CV$

So ,it means that it is riskier to make investment decisions based only on financial advertisements.

Hypothesis 11: Whether Financial Advertisements are ethical

H_0 : Financial Advertisements are not ethical

H_1 : Financial Advertisements are ethical

$$\text{Degree Of Freedom} = (C-1) = (5-1) = 4$$

$$Df\ 4, 0.05 \text{ (At level of significance } 5\% \text{)} = 9.488 \text{ (Critical Value)}$$

$$CV = 9.488$$

$$X^2 = 88.90$$

The P-Value is $< .00001$. The result is significant at $p < .05$.

Conclusion – We will reject H_0 as $X^2 > CV$

So ,it means that financial advertisements are ethical.

C. Mann Whitney U Test or Wilcoxon Rank Sum Test : This test was conducted to know whether there is a difference in the reliability rankings between Mumbai and Lucknow responses.

Hypothesis:

H_0 : The reliability ranks of both Mumbai and Lucknow are equal

H1: The reliability ranks of both Mumbai and Lucknow are not equal

The p-value equals 0.9721, $p(x \leq Z) = 0.486$. It means that the chance of type I error, rejecting a correct H0, is too high: 0.9721 (97.21%). The larger the p-value the more it supports H0.

The test statistic Z equals -0.03499, which is in the 95% region of acceptance: [-1.96 : 1.96]. U=1244.5, is in the 95% region of acceptance: [969.9451 : 1530.0549].

Thus, H0 is accepted. This means that the reliability ranks of both Mumbai and Lucknow are equal.

Summary of Findings

- The responses indicate people are neutral about the reliability of financial advertisements
- Financial Advertisements are considered ethical but riskier for making investments
- Financial Advertisements do not have a good recall value
- The preferred medium of financial advertisements is online/digital advertisements
- People are ready to invest a maximum of 25% of investments based on financial advertisements in mutual funds, insurance and shares
- People feel that all relevant information about the financial advertisements should be disclosed and monitoring of these ads is very important

5. CONCLUSION

Financial Advertisements aren't considered as a major source of information for investment decisions and are considered risky. Financial Advertisements are providing information about various investment avenues. However, Financial Advertisements do have a good recall value. There is a need for more informative and reliable financial advertisements for investment decisions.

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An Empirical Analysis of Technologies and Applications in Robotics Industry 4.0

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ABSTRACT

The industry 4.0 is new industrial model that characterizes the fourth industrial revolution. The recent years, there has been dynamic changes in the industrial an environment as result of further new innovations called Industry 4.0. The Robotics as a field that deals with creating humanoid machines that can behave like human begins. The proposed approach is dedicated to researches and robotics applications can implement to the concept of Industry 4.0 in enterprises.

1. INTRODUCTION

The modern world economy has entered the fourth industrial revolution through it is at an early stage and revolutionary digital technologies are still being developed and posted. In the past few years, the global industrial environment has changed deeply due to successive technological developments and innovations in manufacturing process.

The Industry 4.0 is a string combination of operational technology (OT) and information Technology then robotics in production. The Industry 4.0 concept is the result of the technological progress of the fourth Industrial revolution. The industry 4.0 is a technological system with many innovations called technology 4.0. Robotics and Automation, 3D printing, Collaborative robots (cobots), Cloud computing and interact of things to be implemented on a large scale in the smart factories in the future.

The recent years can act like humans in certain situations but can they think like human. This is where artificial intelligence comes to AI allows robots to act intelligently in certain situations. These robots may be able to solve problems is a limited sphere or even learn in controlled environments. For example, of this is kismet which is a social interaction robot developed at M.I.T's Artificial Intelligence lab.

2. HISTORY

The history of robotics is one that is highlighted by a reality world that has provided the inspiration to convert fantasy in to reality. Considering the combination of the three fundamental aspects that contributed to the emergence of industry, namely, knowledge, experimentation and enterprise neural innovation, industrial revolutions could have their consolidation designed.

The first aspects, knowledge refers to the range of understanding of scholars and inventors of decades ago, who researched, and investigated sought possibilities for great new discoveries at the time and was able to increase their ability to understand the concept.

The second aspects, experimentation is the process for making explicit the knowledge of scholars and collaborators in order to prove and prove that possibilities and a feasibility.

The third aspects, entrepreneurial innovation is the confidence of employers of the time to believe in and invest in new discoveries and work models and ways of providing and an expanding their business and sales never before imagined.

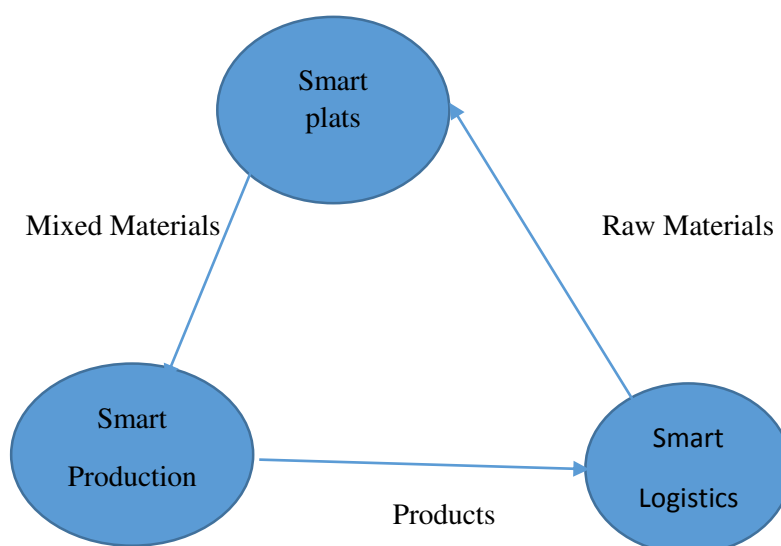
At one end of the spectrum is the science fiction version of a robot. Typically, one of a human form. an android or humanoid with in features. in ISO the international organization for standardization defines a robot as an “automatically controlled, reprogrammable, multipurpose manipulator with three or more axes”. The robot institute of America desi grates a robot as “a programmable, multifunctional manipulator designed to move material, parts, tools or specialized devices through various programmed motions for the performance of a variety of tasks.

3. UNDERSTANDING OF INDUSTRY 4.0

The term “Industry 4.0 “comes in the context of a new industrial revolution which emphasizes and includes the latest technological innovations and aids in both fast and customized production. The aim of promoting manufacturing automation and consequently increasing productivity through “Smart Factories” the still imminent fourth industrial revolution can be characterized by the integration between the interact and production process.

The robotics industry 4.0 is not only a technical challenge but also a reality that will significantly change the organizational structure of companies. new level of socio technical interaction autonomous and self-organized production resources carries out planning process in value chains between organizations.

Smart Products: The products and the tolerable operating parameter of a certain production process are mutually known. These products can be grouped to optimize production.



Individualized production: flexible configuration enables industries to consider the specific characteristics of customer demand and product doing design, planning, production and recycling phase.

Autonomous control: Employee's control and configure intelligent production resources based on targets sensitive to the present context.

Product design controls product related data: product related data becomes a central feature in managing its product life cycle.

4. DESIGN PRINCIPLES OF INDUSTRY 4.0

The industry 4.0 encompasses six stages of design principles in that framework which are called decentralization, Virtualization, interoperability, Modularity, real time capability and service orientation. These principles are called "Design Principles" Because they contribute to the design process of common Industry 4.0 to Industry 5.0.

DECENTRALIZATION:

The first design principle of Virtualization Is that by using machine to machine (M2M) Monitoring and communication a virtual twin can be abstracted from the industry. The sensor data is listed to virtual plant models and simulation models. A virtual copy of the physical world can be created.

INTEROPERABILITY:

The principle of interoperability in the industry 4.0 manufacturing environment is that facilities capable of automatically exchanging information, initiating actions and controlling each other independently. The embedded manufacturing systems are vertically with business process internal to industries by connecting software and programs.

MODULARITY:

The principle of modularity involves modular systems that can flexibly adapt to changing requirements by replacing or expanding individual production modules making adding or removing modules much easier.

REAL TIME CAPABILITY:

The principle of real time capability systems that is the manufacturing process intelligent machines with specific software will automatically adapt to the process and decision making by CPS to the productive needs, thus monitoring the product quality in order to make decisions at every moment of need.

SERVICE ORIENTATION:

The principle of service orientation according to characterized by the availability, through internet of human business services and CPS which can be used by other stakeholders facilitating the creation of product service systems also known as product services.

ROBOTICS IN INDUSTRY:

Running in parallel with the development in research laboratories the use of real points in industry blossomed beyond the time of Engr Berger and devol's historic meeting. In 1954 Plant Corporation developed the first commercially available robot which was controlled by limit switches and cams. The machines have long moved out of research labs to venture into new spheres. They are expected to continue the epic migration towards to automotive sector and more. Robots are already contributing to higher quality products and shorter turnaround times in the manufacturing sector.

BRAWN, BONE & BRAIN:

Brawn- Strength relating to physical-to-physical payload that a robot can move.

Bone –The physical structure of a robot relative to the work it does this determines the size and weight of the robot in relation to its physical payload.

Brain – Robotic intelligence: what it can think and do independently how much manual interaction is required.

5. WORK AT INDUSTRIAL ROBOTS

The number of robots in the world today is approaching 1,00,000 with almost half that number in japan and just 15% in the US. A couple of decades ago 60% of robots were used in car manufacturing, typically on assembly lines during a variety of repetitive tasks. Today only 50% are in automobile plants, With the other half spread out among other factories, laboratories warehouses, energy plants, hospitals and many other industries. Industry 4.0 robots are used for assembling products handling dangerous materials, spray, painting, cutting and polishing inspection of products.

The latest innovations in robotics:

These robots are providing to be effective at basic tasks and jobs. Here are some of the latest robots innovations and why there needs to be skilled mechatronics engineering technologist to help repair and maintain all of these great robots.

(i)Google worker robots:

Google is planning to produce worker robots with personalities the industry 4.0 Technology grant recently won a patent for the ambitions project. The robots have the capacity to store and display multiple personalities when interacting with humans.

(ii) Multi-tasking bots:

The momentum machines developed a multitasking bot capable of preparing a government fiam burger in as little as 10 seconds. If all goes well, the robot could eventually be used in fast load restaurants.

(iii) UR3 arm:

An automated device created by universal robots known as UR3 can built its own. Replacement parts on the fly. The cute and nimble robot can handle a variety of tasks, such as painting, Soldering and grapping.

(iv) Saul Robot:

Saul robot is designed to help fight deadly diseases like that Ebola Virus. The machine was developed by the Air-force to eliminate the virus in rooms while quarantine procedures are conducted an aid worker. These robots developed by Xenex; Sail eradicates traces of EBOLA using powerful pulses of highly energetic ultraviolet rays.

(v)Asus Zenbo:

This a low-cost robot capable of rolling around automatically and understand verbal Commands. Developed by the device to help individuals remember daily tasks, such as exercise and medication schedule as well as doctor’s appointments.

(vi)Paro:

Paro is therapeutic robot with the appearance of a baby harp seal. The fairy device is intended to help lower stress levels and stimulate interaction between caregivers and patients. It comes with five different sensors, Including light, tactile, audition and temperature sensors.

(vi) Pepper:

Pepper is a talking humanoid robot that adapts its attitude based on how it perceives the mood of humans around it. This allows it to accurately understand emotional context. Its developers embedded up to 20 engines in the need, back and arms to regulate movements.

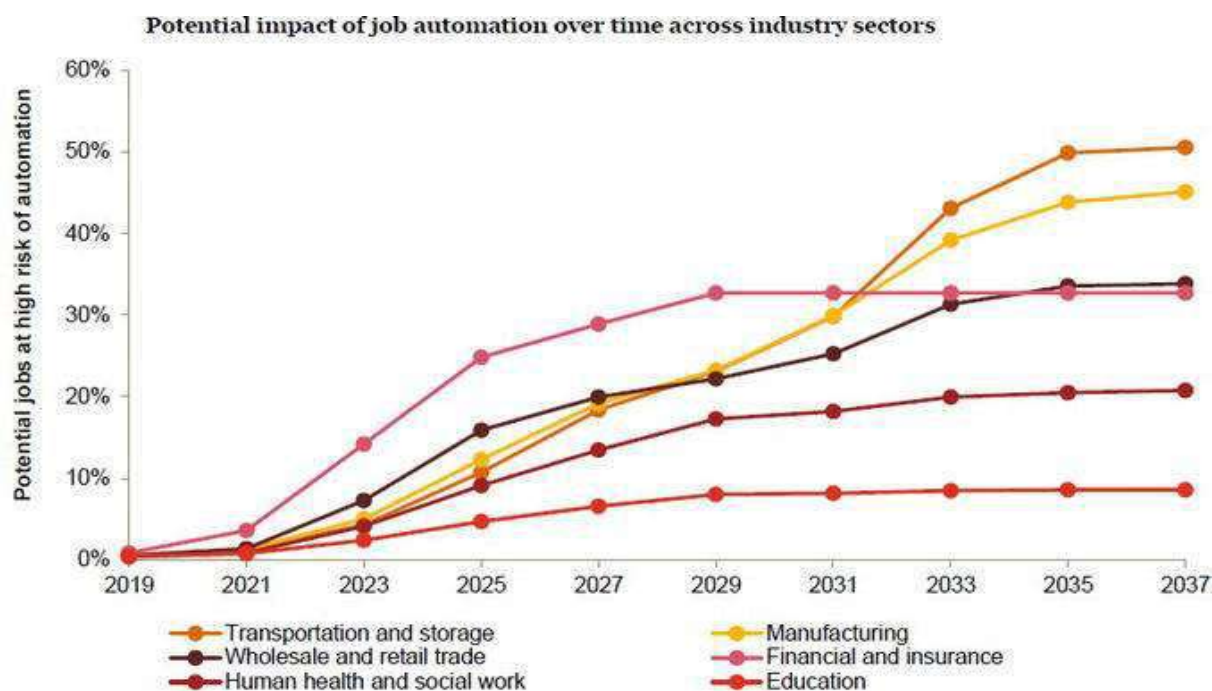
6. COMPARISON OF INDUSTRY VERSIONS

Features	Industry 3.0	Industry 3.5	Industry 4.0
Concept	Operational decision	Digital decision	Self-flexible, self-adaptable and self-learning
Production	Mass Production	Flexible Manufacturing	Mass Customization
Quality Control	Statistical Process Control	Advanced Process Control	Self-aware and Self-predict
Resources Management	Materials and Human Resource Management	Total resource Management	Self-configure and Self optimize
Development Priorities	Hardware investment	Integration of ability of data analysis and experience of management	CPS and IoT

7. INDUSTRY PROCESSES

In Industry 3.0, we automate processes using logic processors and information technology. These processes often operate largely without human interference, but there is still a human aspect behind it. Where Industry 4.0 comes in is with the availability and use of vast quantities of data on the production floor.

For an example of the old way (Industry 3.0), take a CNC machine: while largely automated, it still needs input from a human controller. The process is automated based on human input, not by data. Under Industry 4.0, that same CNC machine would not only be able to follow set programming parameters, but also use data to streamline production processes.



Source: PIAAC data, PwC analysis

8. CONCLUSION

Industry 4.0 is used interchangeably with the fourth industrial revolution and represents a new stage in the organization and control of the industrial value chain. Robotics is an innovative technology used for the various development industries. Owing to This technology helps the floor, helps employees effectively perform their duties, and reduces or removes all physical stress. Network and connectivity are two of the most critical considerations in facilitating Industry 4.0. A variety of advances in technology such as edge-to-cloud, gigabit ethernet time-sensitive networks, wide-area low-power networks, 5G technology machine-to-machine connectivity, real-time determinist ethernet networking, omnipresent radio access and unified IoT platform, and zero-touch networks are enabling factories to introduce IoT to turn into facilities for Industry 4.0.

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A Study on Performance Analysis of Nifty Index Mutual Funds Industry 4.0

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ABSTRACT

A mutual fund is a professionally managed investment fund that pools together the savings of a number of investors who shares the common financial goals. These investors may be retail or institutional in nature. It offers small or individual investors access to professionally managed portfolios of equities, bonds and other securities. It is equally useful for the HNIs (High Net-worth Individuals) who wish to park their money in relatively riskier instrument and thereby getting a 3 opportunity to get higher returns. Some types of mutual funds are very much useful for the corporate who wish to park their large amount of money for a short period of time in an instrument where they can get an opportunity of getting handsome rate of returns. The paper is the study of the performance of Nifty Index fund. This is analysed empirically since the period of 2015 – 2020. The main objective of this research is to evaluate the performance of Nifty Index funds. The study examined three parameters such as active returns, tracking error, Risk Measures. In this paper the data will be collected from the Primary as well as secondary sources.

Keywords: *Financial Performance, Index Fund, Risk Adjusted Return, Tracking error.*

1. INTRODUCTION

Mutual Fund is a tool of investment for the investors who have a common goal of investment. It has been a part of the capital market of the economy. Almost every economy in the world which is having its own capital market has the mutual fund industry. The name MUTUAL FUND indicates itself that the people who MUTUALLY agree to carry out a common activity i.e. investment with a common goal by creating a pool of investment which is called as FUND.

A mutual fund is a managed group of owned securities of several corporations. These corporations receive profits on the shares that they hold and realize capital gains or losses on their securities traded. Investors purchase units in the mutual funds as if it was an individual security. After paying operating costs, the earnings (dividends, capital gains or losses) of the mutual fund are distributed to the investors, in proportion to the amount of money invested.

Mutual Funds are useful as a tool of investment for various classes of the society. For a retail investor, mutual funds provide a very simple way of investment through which they can invest in stock market and other investment options. A retail investor who is not aware about the workings of stock market but still is interested in the investment in stock market can start his investments through mutual funds. During the last few years, mutual funds have emerged as the instrument of investment and is considered for the investment planning for the post-retirement investment.

An Index Fund is a form of mutual fund that invests in a specific set of stocks of an index like BSE Sensex or NSE NIFTY. A portfolio of an index fund built to inform or track the additives of a market index and it offers massive marketplace exposure low portfolio turnover and low operating expenses. These finances observe the unique standards or regulations such as Efficient tax management or reducing tracking error that stay in location, there may be no matter the country of the markets. The main advantage of index funds for investors lies in its cost. Since the mutual fund require only passive fund management, they are much cheaper than more actively managed fund in which portfolio managers make an effort to choose the right stocks.

Since index funds track a market index and are passively managed, they are less volatile than the actively managed equity funds. Hence, the risks are lower. During a market rally, index funds returns are good usually. However, it is usually recommended to switch your investments to actively managed funds during a market slump. Ideally, you should have a healthy mix of index funds and actively managed funds in your equity portfolio. Further, since the index funds endeavour to replicate the performance of the index, returns are similar to those of the index. However, one component that needs your attention is Tracking Error. Therefore, before investing in an index fund, you must look for one with the lowest tracking error.

2. LITERATURE REVIEW

Venkatapath Raju 40 has authored a book which explains in detail about the description about different types of products of mutual funds with their investment objectives. The book also tries to match the objectives of the mutual fund schemes with the investors' expectations from such schemes. The author has tried to match the expectations of the investors' expectations with the objectives of the mutual fund schemes so that the investors get a proper scheme for investment. A detailed explanation of various types of mutual funds schemes explains the benefits and limitations so that the investor can select the proper scheme. The book also attempts to provide information to assist to investor to assess their risk return profile and accordingly choose the right product. One unique thing about the book is that it analyses the factors which motivates the mutual fund investors to take their investment decisions.

Muralidhar Prasad Ayaluru (2016) evaluates the performance of mutual fund schemes. The study selected 10 open ended Equity mutual fund schemes which were offered by the Reliance Mutual Fund.

P. Krishna Prasanna (2012) studies the characteristics and growth pattern of all the 82 Exchange Traded schemes. The schemes are floated and traded on Indian Stock markets. The study measures the performance using DEA (Data Envelopment Analysis) method. The analysis reveals that the overseas fund of funds as well as the Gold funds were able to mobilize greater resources and were able to impress the investors.

S. Narend (2014) presents a comparative study of the performance of ETFs and index funds. The study has done empirically since the period of their respective initiation till July 2013. The study used three parameters for the analysis of the performance such as active returns, tracking error and Jensen's alpha. The analysis shows that ETFs are performing good compare to the index mutual funds.

M. Jayanthi, S. Malathy, T. Radhulya (2013), analyse the gold ETFs and compare the historical data of various gold ETFs in India. The study tracks the performance on daily, weekly, monthly, quarterly and yearly basis. The study showed that many of the gold ETFs currently available in the Indian market exhibit a large deviation from actual gold returns. This problem is more prominent in India than in developed markets.

Hayati and Haruman (2006) conducted a research about Comparison Analysis between the performance of Conventional and Islamic Mutual Funds as the Basis for Decision Making Knowledge for Investment in Indonesia Capital Market. Based on the results of the research's hypothesis testing related to differences between the rate of return and risk of mutual funds, it obtained significant results as follows: (a) There are differences in the level of results between equity funds, fixed income fund and 18 balanced fund (b) There is no difference between the rate of returns of sharia fixed income mutual funds and sharia balanced funds, (c) There are differences in the level of risks between equity funds, fixed income fund and balanced funds and (d) There is no difference in risks between sharia fixed income mutual funds and sharia balanced fund.

Ramadya and Isynuwardhana, (2012) conducted a research about The Differences of the Performance Equity Mutual Funds between Sharia and Conventional Mutual Funds, using with Sharpe, Treynor, and Jensen methods in year 2009-2010. The results showed that sharia mutual funds have better performance in Jensen and Treynor methods. While in Sharpe method, conventional mutual funds have better performance.

Saputra (2009) studied about different performances of sharia and conventional mutual funds, in equity, fixed income and balanced fund. From the 12 companies analysed, sharia mutual funds have better performance than the conventional one.

Febriyanto (2011) also studied about different performances of sharia and conventional equity mutual funds, using Treynor, Jensen, and Sharpe. The results showed that sharia mutual funds have better performance than conventional mutual funds, and sharia mutual fund performance do not differ significantly with conventional mutual funds.

OBJECTIVES OF THE STUDY

1. To evaluate the risk and return of Nifty Index Mutual Funds in India.
2. To study the performance of Nifty Index Mutual Funds.
3. To examine the tracking error and information ratio.

3. RESEARCH METHODOLOGY

This analysis is based on the performance of Nifty INDEX funds. The study selected five INDEX funds for the analysis of data such as IDBI Nifty Index Fund, UTI Nifty Index Fund, HDFC Index Fund - Nifty Plan, SBI Nifty Index Fund, Tata Index Fund-Nifty Plan (G). The research problem is solved by analyzing the data in a systematic way. The main source of the information is secondary data which is suitable for the purpose of the study. The secondary data were collected from the financial report of funds. The study examines the excess return, active return, risk adjusted returns, Sharpe ratio and Treynor ratio. The period of the study was considered from 2015 to 2020.

TABLE I NIFTY INDEX FUNDS

Index fund	Benchmark
IDBI Nifty Index Fund	Nifty Sensex
UTI Nifty Index Fund	Nifty Sensex
HDFC Index Fund - Nifty Plan	Nifty Sensex
SBI Nifty Index Fund	Nifty Sensex
Tata Index Fund-Nifty Plan(G)	Nifty Sensex

4. RESULT & ANALYSIS

The study has taken five open-ended Index fund to analyze the performance which were launched during the period of 2015-2020. The investment objective of the schemes is to provide returns before expenses that closely correspond to the total returns of the S&P CNX Nifty subject, to tracking errors. The performance of Index funds was measured by analysing their active returns and excess returns. The analysis showed that the Index fund considered in this study the better performance. Here (in table II) shows the characteristics of five Index funds given below

S. No.	Index Funds	Underlyin g Index	Launch date	Fund Type	AUM AS ON Dec, 2017(In crores)	Minimum Investment (In INR)
1	IDBI Nifty Index Fund	NIFTY	25-Jun-15	Open-ended	218	5,000
2	UTI Nifty Index Fund	NIFTY	6-Mar-05	Open-ended	716	5,000
3	HDFC Index Fund - Nifty Plan	NIFTY	17-Jul-07	Open-ended	312	5,000
4	SBI Nifty Index Fund	NIFTY	4-Feb-07	Open-ended	239	5,000
5	Tata Index Fund-Nifty Plan(G)	NIFTY	25-Feb-08	Open-ended	6.58	5,000

Excess returns are investment returns from a security or portfolio that exceeds the riskless rate on a security generally perceived to be risk free and Active return is the percentage gain or loss of an investment relative to the investment's benchmark.

TABLE III IDBI NIFTY INDEX FUND– ANNUALIZED RETURNS
(2015 - 2020)

Year	Nifty sensex	Rm in %	NAV	Rp in %	Rf	Excess return(Rp-Rf)	Active return (Rp- Rm)
2015	5410.56	1.70	10.10	0.14	8.03	-7.89	-1.56
2016	5908.09	9.20	11.17	10.65	8.85	1.80	1.46
2017	7453.50	26.16	13.93	24.65	8.22	16.43	-1.51
2018	8298.82	11.34	15.61	12.06	7.25	4.81	0.72
2019	8138.21	-1.94	15.14	-2.98	6.34	-9.32	-1.04
2020	9,661.42	18.72	17.80	17.54	6.42	11.12	-1.18

Table III shows the excess returns and active returns of IDBI Nifty index fund during the period of 2015-2020. The scheme got highest excess return 16.43% in the period of 2017 and highest active return 0.72 in the period of 2018. And the lowest excess return is -9.32 in the period of 2019, the lowest active return is -1.56 in the period of 2015.

TABLE IV UTI NIFTY INDEX FUND– ANNUALIZED RETURNS
(2015 - 2020)

Year	Nifty sensex	Rm in %	NAV	Rp in %	Rf	Excess return(Rp-Rf)	Active return (Rp-Rm)
2015	5410.56	1.70	33.31	0.31	8.03	-7.72	-1.40
2016	5908.09	9.20	36.85	10.64	8.85	1.79	1.45
2017	7453.50	26.16	46.06	24.99	8.22	16.77	-1.17
2018	8298.82	11.34	52.09	13.09	7.25	5.84	1.75
2019	8138.21	-1.94	51.36	-1.39	6.34	-7.73	0.55
2020	9,661.42	18.72	61.33	19.40	6.42	12.98	0.68

The table IV examined the excess returns and active returns for the UTI Nifty index fund during the period of 2015- 2020. The highest excess return is 16.77 in the period of 2017 and lowest excess return is -7.73 in the period of 2019, the highest active return is 1.75 in the period of 2018 and the lowest active return is -1.40 in the period of 2015.

TABLE V HDFC INDEX FUND NIFTY PLAN– ANNUALIZED RETURNS (2015 - 2020)

Year	Nifty sensex	Rm in %	NAV	Rp in %	Rf	Excess return(Rp-Rf)	Active return (Rp-Rm)
2015	5410.56	1.70	46.17	-0.16	8.03	-8.19	-1.86
2016	5908.09	9.20	51.16	10.80	8.85	1.95	1.60
2017	7453.50	26.16	64.26	25.61	8.22	17.39	-0.55
2018	8298.82	11.34	72.83	13.33	7.25	6.08	1.99
2019	8138.21	-1.94	71.78	-1.44	6.34	-7.78	0.49
2020	9,661.42	18.72	85.58	19.23	6.42	12.81	0.52

The table V analyzed the excess returns and active returns of HDFC index fund nifty plan during the period of 2015- 2020. Here the table shows highest excess return in the period of 2017 which is 17.39 and the lowest excess return in the period of 2015 which is -8.19, the highest active return in the period of 2018 which is 1.99 and lowest active return in the period of 2015 which is -1.86.

TABLE VI SBI NIFTY INDEX FUND– ANNUALIZED RETURNS
(2015 - 2020)

Year	Nifty sensex	Rm in %	NAV	Rp in %	Rf	Excess return(Rp-Rf)	Active return (Rp-Rm)
2015	5410.56	1.70	45.72	0.54	8.03	-7.49	-1.17
2016	5908.09	9.20	50.46	10.37	8.85	1.52	1.18
2017	7453.50	26.16	62.55	23.95	8.22	15.73	-2.20

2018	8298.82	11.34	69.98	11.88	7.25	4.63	0.54
2019	8138.21	-1.94	68.51	-2.10	6.34	-8.44	-0.16
2020	9,661.42	18.72	81.44	18.87	6.42	12.45	0.15

The table VI analyzed the returns performance of SBI nifty index fund during the period of 2015-2020. In this table the highest excess return is 15.73 in the period of 2017 and the lowest excess return is -8.44 in the period of 2019, the highest active return is 1.18 in the period of 2016 and the lowest return is -2.20 in the period of 2017.

TABLE VII TATA INDEX FUND NIFTY PLAN (G)– ANNUALIZED RETURNS (2015 - 2020)

Year	Nifty sensex	Rm in %	NAV	Rp in %	Rf	Excess return(Rp-Rf)	Active return (Rp-Rm)
2015	5410.56	1.70	32.00	0.73	8.03	-7.30	-0.97
2016	5908.09	9.20	35.35	10.47	8.85	1.62	1.27
2017	7453.50	26.16	43.88	24.13	8.22	15.91	-2.03
2018	8298.82	11.34	49.20	12.10	7.25	4.85	0.76
2019	8138.21	-1.94	48.16	-2.11	6.34	-8.45	-0.17
2020	9,661.42	18.72	57.11	18.59	6.42	12.17	-0.12

The table VII analyzed the returns performance of TATA index fund nifty plan(G) during the period of 2015-2020. In this table the highest excess return is 15.91 in the period of 2017 and the lowest excess return is -8.45 in the period of 2019, the highest active return is 1.27 in the period of 2016 and the lowest return is -2.03 in the period of 2017.

Funds	Alpha value	Beta value	Sharpe ratio	Treynor ratio
IDBI Nifty Index Fund	-0.51	1.00	0.28	2.83
UTI Nifty Index Fund	0.36	0.98	0.36	3.71
HDFC Index Fund - Nifty Plan	0.45	0.97	0.35	3.81
SBI Nifty Index Fund	-0.37	1.03	0.31	2.99
Tata Index Fund-Nifty Plan(G)	-0.31	1.03	0.32	3.04

TABLE VIII RISK ADJUSTED RETURNS

The study further analyzed the risk-adjusted returns of the index mutual funds using Jensen's alpha (Table 8), Sharpe ratio and Treynor ratio. The study reveals that the in the case IDBI alpha was negative which shows the mutual fund scheme is not able to beat the market. In the case of SBI nifty index fund and TATA nifty index fund, which was statistically irrelevant. Among those index funds that tracked the CNX Nifty index, the HDFC Index Fund was performed best r with an alpha of 0.45%, followed by the UTI Index nifty Fund with an alpha of 0.36. The analysis also showed that the beta value for all the funds, which indicates that the funds were closely correlated with their underlying index. The Sharpe ratio is positive in all the cases which are considered that the fund is acceptable. Treynor ratio also indicated the high positiveness that shows an investor has generated high returns.

TABLE IX TRACKING ERROR AND INFORMATION RATIO

Fund	Tracking Error	Information Ratio
IDBI Nifty Index Fund	1.28	-0.4
UTI Nifty Index Fund	1.32	0.24
HDFC Index Fund - Nifty Plan	1.41	0.26
SBI Nifty Index Fund	1.22	-0.23
Tata Index Fund-Nifty Plan(G)	1.19	-0.18

The tracking error also examined for the Index fund in relation to the underlying index Frino and Gallagher (2001) proposed various techniques for measuring the tracking errors. The most usually used approach of tracking error is the standard deviation of the difference between the returns of the benchmark index and index fund. The same method was adopted in the present study. Information ratio indicates the consistency of the fund manager in generating superior risk adjusted performance. A higher information ratio shows that fund manager has delivered consistent returns over a specified period.

Table IX indicates the tracking error of the index funds with respect to their underlying index. The study found the tracking error was positive and more than 1 in all the index fund which were examined in this study. The study revealed that tracking error were not much high of all the index funds. The table also shows the information ratios which were negative for IDBI nifty index fund, SBI nifty index fund and TATA nifty index fund. HDFC nifty index fund and UTI nifty index fund had a positive information ratio. So the information ratio shows that HDFC nifty index fund and UTI nifty index fund had a better portfolio.

5. CONCLUSION

An Index fund is mainly a passive Mutual Fund that allows investors to purchase a pool of securities in a single transaction. When an investor purchases a quantity of an index fund or ETF, it means that the investor is purchasing a share of a portfolio that contains the securities of the underlying index. Here the study has taken five nifty index fund (IDBI nifty index fund, UTI nifty index fund, HDFC nifty index fund, SBI nifty index fund, TATA nifty index fund) to evaluate the performance. The paper analyzed the performance of index mutual fund that tracked their underlying index, the CNX Nifty index. The study also evaluated Jensen's alpha for the index fund to know whether the fund managers are able to generate excess returns and the have a look at also found out Sharpe and treynor. The study revealed the tracking errors and information ratio of index funds.

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E-Motorcycle: A solution to reduction in cost of transportation

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ABSTRACT

This research covers the area of electric vehicles stand for personal vehicle and its relevant market including the background information about the topic. The research is focusing on the research of current situation for the buyers and the less and more favourable conditions in Indian automobile industry. The principal of the report is comparative research of electric vehicle and conventional vehicles. In addition to this, the research focuses on the total cost of ownership of owning Electric vehicle instead of the conventional vehicle in the Indian market. In addition, the research assumptions are used in the formation of a questionnaire focusing on finding out about the awareness of electric vehicles among the publicity nowadays. The final statement that is going to be approved or rejected is the electric vehicles as a better alternative to the conventional vehicle in India.

Keyword: *Electronic motorcycle, Electronic Vehicle, plug-in, hybrid vehicles, conventional vehicles, Indian bike market*

1. INTRODUCTION

Energy crisis is one of the major concerns of today's world due to fast depleting resources of petrol, diesel, and natural gas. In combination with this, environmental decay is an additional factor which is contributing to the depletion of resources which is an alarming notification. Electric Bike which works on the battery that is powered by the motor is the general mode of transport for a local trip. The Electric bike which will be running on battery, the power is supplied by the motor, thereby supplying this power to drive the other gear components. The main purpose of using E-bike is that it is user-friendly, economical, and relatively cheap. The efficiency of this system is undeniable compared to conventional modes of transport.

2. REVIEW OF LITERATURE

A review of the relevant literature has been described as under.

Akshat Bansal & Akriti Agarwal (2018), in their research paper on "Comparison of Electric and Conventional Vehicles in Indian Market". the research focuses on the total cost of ownership of owning Electric vehicle instead of the conventional vehicle in the Indian market. The research also emphasizes on manufacturer perspective by finding out the best segment to launch an electric vehicle in India. In addition, the research assumptions are used in the formation of a questionnaire focusing on finding out about the awareness of electric vehicles among the publicity nowadays.

A. Jhunjhunwala, P. Kaur and S. Mutagekar in their research paper on "Electric Vehicles in India: A Novel Approach to Scale Electrification," in IEEE Electrification Magazine explained that over the last few years, electric vehicles (EVs) have captured the imagination of people in many parts of the world. Approximately 1.1 million passenger EVs (cars) were sold in 2017, up by about 57% from the previous years. Several nations have announced that their vehicles will be fully electric by 2025, 2030, or 2040. General Motors, Ford, Toyota, Volkswagen, and others demonstrated their EV ambitions by making major EV announcements.

Khurana A, Kumar VVR, Sidhpuria M in their research paper titled, “A Study on the Adoption of Electric Vehicles in India: The Mediating Role of Attitude” explained that various governments are encouraging people to switch to EVs by incentivizing the transition. Previous studies indicate that the high cost of the electric car, non-availability of charging infrastructure, time and range anxiety act as impediments to consumer adoption. The Government of India has given a call for ‘only Electric Vehicles’ on Road by 2030. This article is contemporary and examines the different factors that affect a consumer’s adoption of an EV.

3. RESEARCH METHODOLOGY

The present study is an analytical study because it deals with statistical data. The study is based on primary as well as secondary data. The primary data is collected via structured questionnaire from 141 respondents. The secondary data is collected mainly from the sources available on internet like the articles, journals and websites. Data is presented with the help of Graphs, charts and tables etc, whereas data analysis is done via excel and SPSS software. The statistical tools used are enumerated below:

1. Arithmetic mean for calculating values for the purpose of evaluation.
2. One-way ANOVA for analysis and interpretation.

OBJECTIVES

The following are the broad objectives of this research paper:

1. To find out the market share of different e-motorcycle manufacturing companies in India.
2. To find out the factors influencing the preference for e-motorcycles.
3. To perform comparison between e-motorcycles and petrol bikes.

HYPOTHESIS

H1 - Electric motorcycles are more suitable in current situation.

H0 - Electric motorcycles are not suitable in current situation.

H1 - Electric motorcycles are more convenient than petrol bikes.

H0 - Petrol bikes are more convenient than electric motorcycles.

MEANING OF E-MOTOR CYCLE

An electric motorcycle (e-motorcycle) is a motorized bike with an integrated electric motor used to assist propulsion. Electric motorcycles and scooters are plug-in electric vehicles with two or three wheels. The electricity is stored on board in a rechargeable battery, which drives one or more electric motors. Electric scooters (as distinct from motorcycles) have a step-through frame. Electric motorcycles usually have a larger battery pack and can go up to 100-110km on a single charge.

PROS AND CONS OF ELECTRIC BIKE

PROS:

(i) Zero Vehicular Pollution:

Of course, this is the No.1 reason for such a massive shift to electric vehicles (EVs). They run on electric motors, and not use fossil fuels, which means they don’t let out any pollutants. In effect, the increasing adoption of EVs is being promoted to negate the major role that internal combustion-engined (ICE) vehicles have played in the world’s overall carbon emissions.

(ii) No Maintenance:

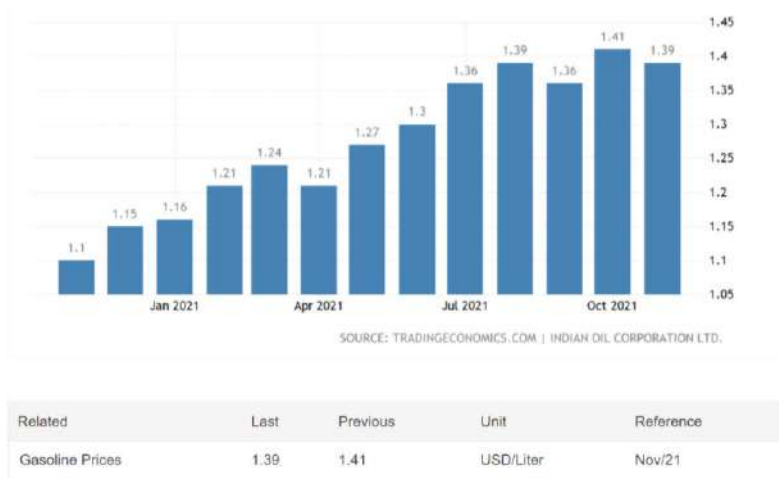
Even after months of daily driving, all that an electric two-wheeler requires is regular cleaning and the occasional lubrication. They have very few moving parts and mechanicals compared to their conventional petrol-powered bikes and scooters. Also, they don't require engine oil or air filters which are the commonly replaced components on a ICE vehicle. Hence, only basic parts need maintenance.

(iii) No Noise:

Apart from polluting the air, conventional two-wheelers with petrol engines are quite noisy. A few actually enjoy this noise, but most would rather do away with it. With an electric two-wheeler, that is just what you can do, as the electric motor makes only a light hum even at full speed, reducing the overall noise pollution of your city.

(iv) Cost Efficient:

Electric two-wheelers usually come with two types of cost benefits - no maintenance over time and a more stable energy source price. Since electric bikes and scooters run on electricity, they're relatively more affordable. The price of electricity does not fluctuate as frequently as that of petrol and diesel. So, you will always pay relatively less to recharge and run your electric two-wheeler. In fact, some electric two-wheelers have a running cost of 1/10th of a ICE vehicle.



Source: <https://tradingeconomics.com/india/gasoline-prices>

(v) Government Incentives:

Various countries and governments across the world have developed frameworks and implemented laws to promote the ownership of electric two-wheelers. In India, the government provides FAME II incentives, which bring down the on-road price of an electric two-wheeler considerably.

CONS:**(i) Higher Initial Investment:**

Since electric two-wheelers are not as widely manufactured as their conventional cousins, their cost is still quite high. This makes EVs inaccessible for a large population, as not everyone is willing or can afford to pay the high premium. The primary reason for the high cost of electric

two-wheelers is the lithium-ion batteries, which sometimes can be 50 per cent more than the cost of the vehicle itself.

(ii) Short Range:

With the current level of battery technology, the range of an electric two-wheeler is mostly lesser than that of its conventionally powered counterpart. This coupled with the limited charging infrastructure deters EV buyers.

(iii) Not so great on performance:

Most of the premium, modern electric two-wheelers have an unimpressive top speed for the price they command. Sure, the initial acceleration is high but electric motors usually lose their steam as the speeds climb. None of the reasonably priced modern electric two-wheelers sold in India is properly highway worthy so far. Even the high-speed electric scooters on sale have a top speed in the range of 60-80kmph and are priced over Rs 1 lakh.

(iv) Charging Infrastructure:

The lack of good charging infrastructure poses a problem, particularly in developing countries such as India. Once that is taken care of, it could essentially eliminate range or future anxieties that plague electric two-wheeler owners. While growth is expected in the next few years, finding a charging point right when you need it is not as easy as finding a fuel bunk yet.

(v) Charge times:

It takes just two minutes to refuel a bike or a scooter, but charging an electric vehicle can take a couple of hours at the bare minimum. Yes, there is the advantage of quick charging tech now, which can give your EV a full charge in just about an hour. However, don't expect to find these fast chargers everywhere just yet. Moreover, not all electric two-wheelers have fast-charging capability as it puts additional strain on the battery's life. That said, a few companies have adopted swappable battery technology, which is a novel way to minimise downtime while charging and also reduce range anxiety to a certain extent.

(vi) Limited Options:

This may be a temporary concern considering the influx of EVs expected from varied manufacturers over the next couple of years. Currently, however, you can count the available options on your fingertips. Thanks to the limitation in battery technology, the range remains limited too. This is one of the reasons why most manufacturers dabble in the scooter segment rather than the motorcycle space.

4. INDIAN ELECTRIC VEHICLE MARKETS OVERVIEW

The Indian Electric Vehicle Market was valued at USD 5 billion in 2020, and it is expected to reach USD 47 billion by 2026, registering a CAGR of above 44% during the forecast period (2021-2026). The Indian Electric Vehicle Market has been impacted by the outbreak of the COVID-19 pandemic due to supply chain disruptions and halt of manufacturing units due to continuous lockdowns and travel restrictions across the country. However, the electric vehicle

(EV) market is still in its nascent stage in India. It is expected to grow at a much faster rate during the forecast period due to various government initiatives and policies.



5. CURRENT E-BIKES AVAILABLE IN INDIAN MARKETS:

In table 1 and table 2 below, it shows that current e-bikes available in Indian market.

Table 1: Comparison of e-Bikes

Model	Revolt RV 400	Revolt RV 300	Ultraviolette F77	Ather 450	Ather 450X	Bajaj Chetak	TVS iQube Electric
Rated Power	3000 W	1500 W	NA	3300 W	3300 W	3800 W	NA
Max Power	NA	NA	33.5 bhp (25 kW)	5400 W	6000 W	4080 W	4400 W
Top Speed	45-85 kmph	25-65 kmph	147 kmph	80 kmph	80 kmph	78 kmph	78 kmph
Battery Capacity	3.24 kWh	2.7 kWh	4.2 kWh	2.7 kWh	2.9 kWh	3.0 kWh	4.5 kWh
Range	80-150 km	80-180 km	130-150 km	55-75 km	60-85 km	85-95 km	75 km
Charging Time	4.5 Hrs	4.2 Hrs	5 Hrs (1.5 Hrs Fast Charge)	5 Hrs (80% in 1 Hr Fast Charge)	5 Hrs (80% in 1 Hr Fast Charge)	5 Hrs	5 Hrs
Price (ex-showroom)	₹ 1,29,463	₹ 1,10,963	₹ 3,00,000	₹ 1,08,847	₹ 1,48,754	₹ 1,15,000	₹ 1,15,000

Source: <https://www.bikedekho.com/>

Table 2 Comparison of e-Bikes

Model	Okinawa iPraise	Hero Photon	Ampere Magnus Pro	Okinawa Ridge Plus	Ampere Zeal	Hero Optima ER	Okinawa Lite
Rated Power	1000 W	1000 W	1200 W	800 W	1200 W	600 W	250 W
Max Power	2500 W	1500 W	NA	1700 W	NA	1200 W	250 W
Top Speed	58 kmph	45 kmph	55 kmph	45 kmph	50-55 kmph	40 kmph	25 kmph
Battery Capacity	3.3 kWh	2.7 kWh	1.8 kWh	1.74 kWh	1.8 kWh	2.7 kWh	1.25 kWh
Range	160 km (Eco)	110 km (Eco)	75-80 km	84 km	85-90 km	110 km	60 km
Charging Time	4 Hrs	5 Hrs	5-6 Hrs	3 hours	5-6 Hrs	4-5 Hrs	4-5 Hrs
Price (ex-showroom)	₹ 1,23,000	₹ 84,990	₹ 73,990	₹ 73,417	₹ 68,799	₹ 74,990	₹ 63,990

Source: <https://www.bikedekho.com/>

In table 1 and table 2, it clearly indicates that more than 10 electric bikes are available in the Indian market in current situation. The highest price is Rs.3,00,000 quoted by Ultraviolette F77 and lowest price is Rs. 63,990 quoted by Okinawa Lite.

6. ANALYSIS OF DATA

COST-BENEFIT ANALYSIS OF E-BIKE AND PETROL BIKE (ASSUMPTION)

Let us assume Mr.A using ebike and Mr.B using petrol bike. The following table gives you better idea about the cost-benefit analysis between bike and petrol bike.

Table 3

Sr No	Particulars	e-bike	Petrol Bike
1	Buying Cost	Rs.60,000	Rs.70,000
2	Daily Running	50 km	50 km
3	Fuel efficiency/Mileage	100km per charge	40km per litre
4	Fuel/electricity cost	Rs. 14 per 1.5 units	Rs. 109 per litre
5	Maintenance	Rs. 20,000 per year	Rs. 7500 per year
6	Time period	3 years	3 years

After 3 years here is how much Mr. A and Mr. B will spend

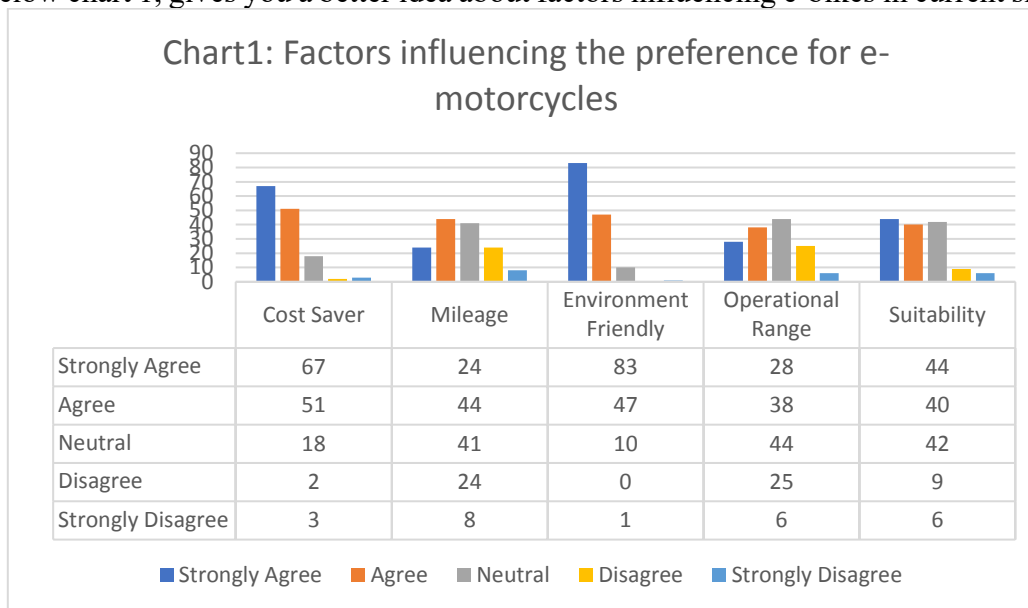
Table 4

Sr No	Particulars	e-bike	Petrol Bike
1	Total Petrol/electricity exp	Rs.7560	Rs.1,47,150

		$((50 \times 30 \times 36) / 100) * 14$	$((50 \times 30 \times 36) / 40) * 109$
2	Total Cost of maintenance	Rs.60,000	Rs.22,500
3	Gross exp including bike's cost	Rs.1,27,560	Rs.2,39,650

As per above analysis, over a period of 3 years, Mr. A will incur Rs. 1,27,560 on ebike, whereas Mr. B will incur Rs. 2,39,650 on his petrol bike. So the saving of Mr. A will be Rs. 1,12,090 for 3 years, so yearly savings of almost Rs.40,000.

Researcher collected primary data via structured questionnaire and 141 responses received. The below chart 1, gives you a better idea about factors influencing e-bikes in current situation.



Source: Author compilation

As per above chart1, 83.7% respondents agree that E-bikes are more cost saver as compared to petrol bikes. 92.2% respondents agree that E-bikes are more environmentally friendly as compared to petrol bikes. 60% respondents feel that E-bikes are more suitable to them as per the current situation.

The above data of respondents is analysed using IBM-SPSS software and One-way annova is applied as follows.

Table 5: Factors influencing the preference for e-bikes (Descriptive Statistics)

Users of E-Bikes	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Yes	114	10.3246	3.38789	.31730	9.6959	10.9532	5.00	21.00
No	27	12.3704	3.67055	.70640	10.9183	13.8224	6.00	25.00
Total	141	10.7163	3.52405	.29678	10.1296	11.3031	5.00	25.00

Source: Author Compilation as per IBM SPSS Software

As per Table 5, 114 respondents are using e-bikes out of 141. The mean of factors influencing the e-bikes of respondents is 10.3246. The standard deviation is 3.38789. Even though the people are not using e-bikes still they are agree that e-bikes are more suitable.

Table 6: Factors influencing the preference for e-bikes (Annova Test)

	Sum of Squares	df	Mean Square	F	Sig.	Table value
Between Groups	91.365	1	91.365	7.709	.006	7.71
Within Groups	1647.288	139	11.851			
Total	1738.652	140				

Source: Author Compilation as per IBM SPSS Software

As per Table 6, the one-way Annova test is applied to test the hypothesis. The annova result as given in table 6 shows that the calculated F value for hypothesis is 7.709 which is less than the Table value of 7.71. At 95% confidence level of significance is 0.05 and the F value is more than that i.e. 7.709. It is understood that electric vehicle is more suitable in the current situation. Therefore the null hypothesis i.e. Electric motorcycles are not suitable in current situation is rejected.

7. FINDINGS

1. The e-bikes are more cost saver as compared to petrol bikes.
2. E-bikes are more environmental-friendly which help to improve the air quality index of city like Mumbai.
3. Currently there are less availability of service station which is the main factor why people are reluctant to switch to e-bikes from petrol bikes. Still e-bikes have growth potential in the future.
4. The operational range of e-bikes is limited to short distance, however with new techniques, and development in e-bikes, the operational range will improve in the future.
5. Still there is a dilemma in the minds of petrol bike users to switch to e-bikes because of after sales services and charging related issues.

8. CONCLUSION

EVs are said to boost post-pandemic for economic recovery. The main aim of EVs in the country is to reduce the oil import and encourage green industrial policy. Electric vehicles will reduce the air pollution and mitigate climatic change. In order to promote usage of e-vehicles, the Indian government also provide lot of subsidies and schemes such as Faster Adoption and Manufacturing of Hybrid and Electric Vehicle (FAME scheme II). A lot of incentives are provided to the buyer such as basic subsidy, rebate, Income tax benefits under section 80EEB etc. In addition to all these incentives, all the electric vehicles are free of registration and road tax costs too. In spite of all the efforts taken by the government, the adoption of e-bikes are relatively less. This is because of many reasons such as less availability of service stations, charging issues, after sales services, etc. Finally, in the near future, EVs will have a great future in Indian market.

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Revolutionary Approach Regarding Adoption of Fintech Industry in India

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ABSTRACT

Financial Technology or FinTech is the new hot topic in the financial market today. It's buzzing and it's spread all over the financial industry. There has been an evolution in the FinTech industry which is led by the startups. There are a lot of challenges posed by the startups for regulators and market participants and this helps to balance the merits of innovation with the possible associated risks of the new approaches in the field of finance. The traditional methods in the financial sector are revolutionizing and changing. The term 'FinTech' is derived from the combination of Finance and Technology. The Financial Field is constantly being moulded and shaped by FinTech. Adoption of Fintech, News Network in FinTech, Structure of Fintech Industry and Fintech Startups in India, etc. are some of the analyses done through this research paper.

Keywords: *FinTech, Finance, Fintech Industry Structure, FinTech Startup, FinTech Adoption.*

1. INTRODUCTION

Different technologies in finance have emerged around the globe due to FinTech^[1]. In order to improve the financial services, the companies and banks are adopting and using the upcoming trend in technology and this is referred to as FinTech^[2]. In the past few years, there have been numerous startups who entered into the Indian FinTech industry. These startups are adding value as the industry grows with every entrance and is also gaining recognition worldwide. Out of 250 global promising startups, 20 are Indian FinTech Startups that are listed, shows the latest reports of CB^[3]. We are also using FinTech services like BHIM, UPI, Payment Wallet, Digital Banking, etc. on a daily basis and this has made our life comfortable and easy. The above points therefore highlight the importance of FinTech and how the fusion of Finance and Technology can bring a revolution.^[4]

Countries with higher rate of Adoption of Fintech Industry

Graph 1 : Countries with higher rate of Adoption of Fintech Industry

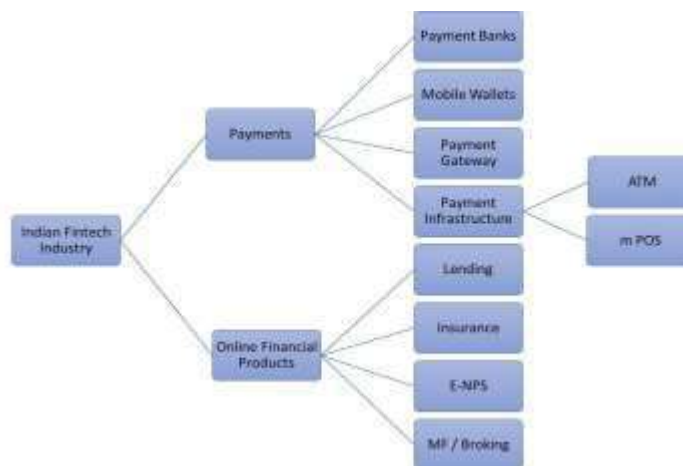


The above graph shows a representation of countries that have highly adopted the FinTech Industry. China, as can be seen, has the highest adoption rate particularly in all financial service sectors in comparison to all other countries. Followed by China, the U.S. comes number 2 when it comes to the adoption of financial technologies. Other countries, Mexico, South Africa and the U.K., more or less have the same adoption rate. India is going digital and many startups and activities are emerging under FinTech and it will not be surprising if we see India among these top FinTech companies due to its high adoption rate.

Growth & Adoption of FinTech Industry in India

Every day, FinTech companies are setting new benchmarks for the services in the financial sector in India. Jan Dhan Yojna, Aadhaar, etc. are some of the government initiatives that are encouraging the growth of the Fintech Industry in India. Along with that, the emergence and increasing rise of services like UPI are serving as a strong base resulting to boost the financial inclusion in India. Around 88% of males and 84% of females have already adopted FinTech Applications and among them the most FinTech adopting age group is between 25 and 44 which stood around 94% of the total population whereas worldwide around 73% of the total population accounts for the same age group. Undoubtedly, India is increasingly rising towards higher adoption of Fintech making it one of the fastest growing FinTech markets across the globe. Alongside China, India ranked highest for the rate of FinTech adoption. There is an expectation of an exponential growth of 20% CAGR till 2023 while the value of digital payments were \$65 bn in 2019. Worldwide, there are different and multiple factors that influence markets, among which FinTech is a major factor. The FinTech Market is unique in India, this is because the nation has its own set of challenges and opportunities. For payment community especially, the FinTech Market is very unique ^[5].

Figure 1 : Indian FinTech Industry Structure



Government Initiatives in Adoption of FinTech Industry in India

The Government of India is supporting the new digital innovation brought by the FinTech Industry which has made the dream of making the country a cashless and digital economy. And hence, to push against such a revolution, GOI is making aggressive strategies at policy as well as funding level. Other regulatory bodies like RBI and SEBI are also with the GOI to promote and support the digital and Fintech Industry.

Some of the Government Initiatives are as follows:

- **Creating an environment for FinTech:**
 - a) Government is encouraging more and more digital transactions promoting a digital economy. Some initiatives like Jan Dhan Yojna, UPI and RBI Bharat Bill Payment, etc. are introduced.
 - b) Government is constantly working on improving internet and mobile services by introducing some initiatives like JAM(Aadhaar and Mobile), Digital India and Trai Initiatives.
 - c) Several policies and regulations are introduced for encouraging FinTech which includes Payment Bank licenses, Guidelines on P2P by RBI and Crowdfunding Regulation by SEBI.
- **Promoting FinTech:**
 - a) Government is promoting innovation in finance and tech by taking initiatives such as Payment System Innovation Awards by RBI, Government T-Hub, etc.
 - b) Government is also encouraging Start-ups by introducing Start-up India and ease in start-up listing norms by SEBI.

Revolutionary Approach to FinTech Industry in India

New technologies are bringing a revolution in the field of Finance. Hence, FinTech is opening doors for so many opportunities for businesses and start-ups to grow. The growth can be achieved by unleashing the maximum potential to mold the sharing economy and intelligence of customers, thereby dealing with technological advancement tools such as Artificial Intelligence (AI), Blockchain, Robotics, etc.

- **Artificial Intelligence in FinTech:**
Artificial Intelligence or AI has brought numerous opportunities for businesses and start-ups to grow. It was only after the introduction of AI, that other IT companies can also deal with the inherent quantitative nature of this tech savvy world with the availability of a good bandwidth. AI has been an absolute game changer for FinTech^[8]. Customers are now offered a wide range of financial products and services and they have numerous options to choose as per their requirement. These products are also made more affordable and relevant. All these changes in the world of Finance is due to the tremendous contribution of AI which brought with it a lot of efficiency and ease to carry out tasks^[9]
- **Blockchain in FinTech:**
Blockchain development companies are benefited due to the change in Approach towards finance brought by FinTech^[10]. Blockchain and cryptocurrency are bringing up the concept of virtual/digital currency to the world which is revolutionary in the world of finance. Eliminating intermediaries and widening the scope and options of investments other than traditional methods is truly bringing a change to the overall approach in Finance.
- **Cloud Computing in FinTech:**
Along with staying in line with the regulations, companies can upscale or downscale efficiently with full control if they have Cloud Infrastructure. Cloud infrastructure therefore contributes largely towards FinTech^[11]. With the use of Cloud technology and infrastructure, FinTech can sustain a constant growth, reduce CAPEX and OPEX budgets and can enhance the service portfolio and user experience.^[12]
- **NLP-based chatbots**
Mobile Banking could be reformed by employing NLP based chatbots and innovative Conversational User Interface (CUI), says PwC India. The customer can experience

better and instant responses via these chat bots which will help them give solutions to their problems thereby uplifting customer experience.

Evolution of Modern FinTech

Be it for personal use or business use, any innovation that involves financial transaction is applicable to Financial Technology or FinTech. Since the existence of credit card and debit card, FinTech has been continuously disrupting the world of finance. Previously, FinTech was only pertained to back office and stock trading companies but now due to easy access to internet and mobile phones, the use and growth of FinTech has prospered. Digital world without FinTech seems incomplete now, hence it has become a crucial part. FinTech is further expected to grow with the continuous rise in technological advancements and personal or commercial finance.^[16]

Global Evolution of Modern FinTech over the years:

It was the 1950s, when the first credit card was introduced by the Dinner's Club. Further, in the 1960s, the world's first ATM was installed by Barclays Enfield, London. Followed by that, NASDAQ introduced electronic trading in the 1970s. In the 1980s, E-trade launched the first online brokerage services. Along with this, online tele-banking was also introduced in the 1980s by the Nottingham Building Society. After that, the first online banking website in the US was introduced by the Stanford Federal Credit Union in the US in the 1990s. Paypal also made its debut in the late 1990s. Bitcoins was launched in 2009 followed by Google pay send launch which was in the 2010s. In the last decade, i.e., from 2010-2020, numerous technological advancements came into existence. Some of them were the Facial Recognition Technology 'Smile to Pay' created by Alibaba, FinTech apps like Stripe and Venmo gained popularity, and Digital-only banks or Neo banks created a disruption in the finance sector.

2. CONCLUSION

FinTech delivers quick financial services by applying innovation and technology. It uses new products, technology, processes, applications, business models, problems, etc. to get the job done. FinTech can be a boon to India considering the wide range of efficiency and ease it provides for digital transactions and other services. However, there are other risk associated factors to be considered wherein the data and protection of customers is a matter of concern. To address these concerns and to ensure the safety of customers, all regulatory bodies are closely monitoring the activities in FinTech. When mobile phones penetrated India, it saw a tremendous increase in the FinTech percentage from 53% (2014) to 64% (2018). The FinTech Market in India is largely untapped as 40% of the population are not yet exposed to basic banking services while 80% of the population still deals in transactions with Cash. So, there is a huge opportunity for the FinTech Startups and Businesses to emerge in Indian Markets and build their presence!

As of now, considering the growing FinTech market, businesses and start-ups in India, the future seems bright. Although the disruptions must be dealt with extreme caution and customer protection must be prioritized. Looking at the ease, efficiency and scope, and other technological advancements dropping in like AI, ML, Robotics, etc. India can be the largest digital economy across the world in the upcoming year.

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Trending E-Commerce System in India: An Analytical Study

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ABSTRACT

Information technology has boosted the world of businesses and production processes globally. Digital economy or digitisation is nothing but processes, activities, trading, transactions and interactions taking place with the help of internet digital technology. There are various digital tools involved in e-commerce. Throughout the ages digital marketing or e-Commerce has seen a revolutionary change. This change is in the process of both marketing and selling of products. Simultaneously, the change has also been witnessed in the purchasing process by the customers. There are various merchandisers and services all over the internet, which are providing the platform for online products and services from start to finish. Various software's and portals have been established for facilitating online sell and purchase. E-commerce has influenced buyers and sellers. The digital modes of financial transactions have made the payment and refunds very easy. In this case the chances of fraud have been reduced significantly.

Keywords: E-Commerce, B2B, Digital Transformation, Information Technology.

1. INTRODUCTION

The digital economy was initiated in India a long time back, however it became part and parcel of the Indian economy after the announcement of the launch of the program called Digital India by Prime Minister Shri Narendra Modi on 1st July 2015 (**Aggarwal, M., 2014**). The main purpose of this programme was to make available the Digital Services to the citizens electronically and improving the infrastructure by increasing the internet connectivity. Various initiatives were launched by the government to take the initial step and make the digital platforms reach the common people (**Biswas, 2015**).

E-Commerce is an Advancement in the field of Commerce that focuses on buying and selling online. (**Browntape, 2015**). Prior to E-commerce emerging, it was even impossible to imagine that one can purchase all his requirements without stepping out of his house. E-commerce eliminates the old concept of sellers and buyers meeting at one place and their requirements are fulfilled, because now without the buyers and sellers looking at each other, just by displaying or listing the products on the web which the seller wants to sell, and the buyer by browsing through the products can make a buying decision (**Gunasekaran, 2002**). Buying has become so easy because of E-commerce.

2. DEFINITION OF E-COMMERCE

“E-commerce refers to a wide range of online business activities for product and services” (**Anita Rosen, 2000**). It also pertains to “Any form of business transaction in which the parties interact electronically rather than by physical contact.” **MK, Euro Info Correspondence Centre (Belgrade, Serbia)**

E-Commerce is nothing but using the internet for marketing of the products and services. It is used through mobile and computers (**Bansal, 2012**). Several parameters are involved in it including supply chain, management, online data processing electronic Commerce, internet marketing, and data collection processes. It is using the World Wide Web along with other online portals and electronic mails. (**Aulakh, G., 2015**)

In e-commerce, the customers are using services and computer devices specially designed for receiving and placing of orders. Here, the sale and purchase of goods and services become easy. One of the important advantages of e-commerce is that the order of goods and services is done online; however, the payment of the same can be done either online or manually during the time of delivery (**Chanana, N., & Goele, S., 2012**). This transaction takes place between the individual, enterprises, households, government, suppliers, and mother related organisations (**Mishra, 2015**).

3. IMPORTANCE OF E-COMMERCE

E-commerce has become a very important tool in the present day world. It has become a mandate to be able to go hand in hand with the present technology, for doing so one has to join e-commerce to compete with the rest of the world (**Gupta, A., 2014**). Owners have to be constantly ready to cope up with the technological advancements and adopt them consequently. Let us discuss some of the importance of e-commerce:

3.1 Customer Convenience: It provides utmost convenience to the customers as they can get a variety of choices without moving out of their comfort zones, just at a click of button (**Awais, 2012**). They can also make comparisons of the same products from different online sellers and purchase the product at the most convenient prices.

3.2 Service available for 24X7: This is the other biggest advantage of shopping from e-commerce companies, they have the benefit to purchase the goods at their own convenience, i.e. at any hour of the day and their order will be booked and later delivered at their doorstep (**Das, 2012**).

3.3 Connect the globe: The e-commerce website provides services all around the globe. therefore they have the chance to reach and connect with the globe. This also results in higher turnover and success for their company.

3.4 Catch Customers on Social Media: Today due to the popularity of social media sites, the e-commerce companies have the scope to reach a bigger audience to sell their products. This has also given rise to additional means of advertising apart from Radio, Television, Newspapers and Magazines.

4. FUNCTIONS OF E-COMMERCE

Following is the function of e-commerce businesses:

a. **Registration:** Any customer who is willing to make a purchase through an e-commerce website has to undergo this important step, to register their details with the company (**Dr. Anjum Bimal, 2011**).

b. **Basket:** The basket is a very important tool that allows the customers to select the products they wish to buy from the online portal. The basket represents the shopping basket of the customers, wherein they can store all the products they wish to buy, and later on they can move to the checkout option for making payment. Apart from recognizing an order, this

software also looks into the following functions such as taxes calculation, discounting the prices, making of bill and client's delivery address, up-selling, guaranteeing client's acceptance of conditions of sale, code creation such as tracking order number, etc.,

c. **Payment:** This step helps the customers to make payment for their products through their preferred mode of payment. This method can be cash on delivery, debit card, credit card or any other preferred mode of payment available in the portal.

d. **Listing orders and customers details:** The e-commerce staff can search and sort orders by typing the details of the customers, order status, date of order, payment status etc. Orders may be printed for the purpose of shipment. (Hiwarkar Tryambak, 2013).

5. SOCIO ECONOMIC IMPACT OF DIGITIZATION

Digitization has its severe impact on the enduring value of various resources. It particularly raises the reputation of the company.

a. **Economic Impact of Digitization:** The mode of transformation of information has changed worldwide from print Media to digital media. This is particularly because of growing internet usage. In the process of digitization, various information segments get transmitted, processed, communicated and transferred, via digital network (Jehangir, 2011). While considering the utility aspect of any technology, its economic benefit is to be calculated at the initiative level. This benefit can be calculated in terms of its pricing, reliability, speed and simplicity usage determining the exact features of the technology. Due to digitisation, transparency and efficiency is noted not only in the initiatives of the public sector, but even the private enterprises. The amount of corruption in the global trade phenomena and maintaining the reputation of the firm can be reduced due to the digitization process (Karakaya F., et al, 2001). Tracking of both financial and tangible resources also becomes viable. Thus, it can be said that. Digitization has created a dramatic effect on the economy of the nation. Decision has created a mass effect on the global economy and has been adopted by almost all the nations of the world, let it be developed or developing countries. These nations, which have adopted advanced technologies of digitization tend to benefit much from its impacts.

Marketing and e-commerce have essentially widened the consumer base, including people from all the economic strata of the society. This has led to reduction of the financial matters of the company especially during the recession period, if any. Operational efficiency of the firms can be increased in this way by optimising the trade policies, advertisements of the products, etc.

b. **Impact on Employment:** Employment has boosted due to telecommunication technology in India. More of the job opportunities have been created in the software field particularly dealing with programming, Outsourcing, advertisements, blogging as also with the development of hardware devices. Medicine even in the sectors influenced by digitization including trade, Banking and Insurance, finance, communication networks, Healthcare services, etc. Economic development has particularly been possible in the last few decades because of substantial increase in the employment opportunities'. A very unique phenomenon is noted in most of the semi urban areas of the nation. The unemployed youth are being dragged into the IT field (Khosla (2017)).

c. **Social Impacts of Digitization:** Digitisation has a marked impact on the socialization process. The process of digitization has enabled the progress of society by linking it to modern communication and digital equipment. The main benefit in the process is that the rare stocks in terms of unique resources such as books and literature could now be available in a digital

manner, thus, enabling them to be fruitful for the usage of the future generation. Old history, culture, languages and materials could be stored in this manner and be retrieved whenever needed. Due to cultural hindrances and language barriers, earlier the information and knowledge could be restricted only to few people, however the process of digitisation has helped it reach the masses very easily.

While considering the role of digitisation and its impact on social segments, particularly in terms of online purchasing and its linkage with social development, it can be said that the availability of several products online have increased the reach of the customers. Becoming aware of the different parameters which are existing around them in their own society. The consumers are becoming desperate to take the benefit of such opportunities and try certain innovations in their day to day life. This has even opened the perception of the society to view certain factors, which influence them positively. Modern books, fashion articles, health care products and educational mechanisms are available online (**Mac, R., 2014**).

Thus, it can be concluded that digital processes have rapidly increased in the past few years, enabling social transformation and generating, processing and managing Digital information. Educational and Healthcare services have seen marked development in India due to the digitisation process (**Maheshwari 2016**).

6. FUTURE SCOPE AND OPPORTUNITIES FOR E-COMMERCE AND DIGITIZATION IN INDIA

a. **Scope for the retailers-** Retailers are very well benefited by The E-Commerce system. This can be useful in linking to the online distributor and even the online customers. Once the network is established, the retailer can receive the online orders directly from the customers and make the products available in stipulated time. At the same time, because of online chains, it becomes easy for the retailers to make less investments in terms of establishment. They do not have to locate workshops and retail outdoors at the convenience of the customers.

b. **Scope for the wholesalers and distributors:** In the normal retail world, the wholesalers find it difficult to cope up with the risk persisting in the market. However, e-Commerce networks are made available to them, they can directly make the producers, retailers and customers (**Mitra, 2013**). The chances of risk lowest down and simultaneously, they can track the market situation online without any discrepancy.

c. **Scope for the producers:** Manual advertisement cost a great amount for the producers. It becomes easy for the producers to sell their products and services through online portals. They can easily relate and connect to the last end user/ customer of the products and cater to their demand. Easy tracking of the demand becomes handy. At the same time, if the customers find any complaints for the products, they can communicate with the producer's directly through online mechanisms and get their products replaced. This will tell even the producers that they are somewhere going wrong in their production process, and rectification in future processes thus becomes very easy (**Nayyar, et al, 2005**).

d. **Scope for the customers:** In the modern day world, when people are severely equipped with various courses, they find it difficult to visit the retail stores and make daily purchases. At the same time, they are now techno-savvy, which have made easy usage of mobile phones, internet and other devices, including online mechanisms of bill payment. The online players need to make their significance in the markets, thus, due to growing competition they have to retain the quality of the products (**Pratik Dholakiya, 2015**). Due to these three factors, the customers are blindly switching over to E-Commerce for making their purchases.

The customers are expecting a strong linkage between the availability of the products and the rise of multimedia. The programmers are seeking to run the applications in a manner that the organisations cannot make frequent changes with the available platforms. E-Commerce is expected to enlarge production. At the same time, it will go wider in making the availability of the products instantly through the online platforms (**Numberger, et al,2005**). Virtual markets and service providers are the main basis for the existence of e-commerce in the nation. For this, the business interoperation needs to expand widely.

7. CONCLUSION

Today, e-commerce has become the lifeline of the youth. This itself proves the future of online companies. Many new and innovative start-ups are emerging each day. Earlier the Advertisements were only restricted to radios and television, which has now broadened to YouTube, Facebook, Instagram, Twitter etc. due to the over popularity of above mentioned social media channels, not only among the youth of today, but in all ages of the population of the world. The coverage of social media is really very significant, it covers a huge part of the population of the world. Therefore, this has also increased in the advertisements of popular e-commerce companies.

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Education 4.0

Track 2



A CRISP VISION ON EDUCATION 4.0

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ABSTRACT

Education is the powerful tool to bring any change and thereby growth in any field. However, this change can only be brought through the use of Advance technologies. Education system gets affected by any changes that happen around the world be it in the field of technology or arts or archaeology. The paper focuses on various aspect of changes in terms of version from 1.0 to 4.0, its characteristics, patterns to accomplish Education 4.0, benefits of Education 4.0 for teachers and students.

Keywords: Education 4.0, Pattern, Outcomes, Versionified Description.

1. INTRODUCTION

Change is evident and the foremost reality of life. Any type of growth is next to impossible without change. Change always comes from a way in classic to Recent trends. Here are Some classic definition of Education given by renowned personalities as presented in following diagram:

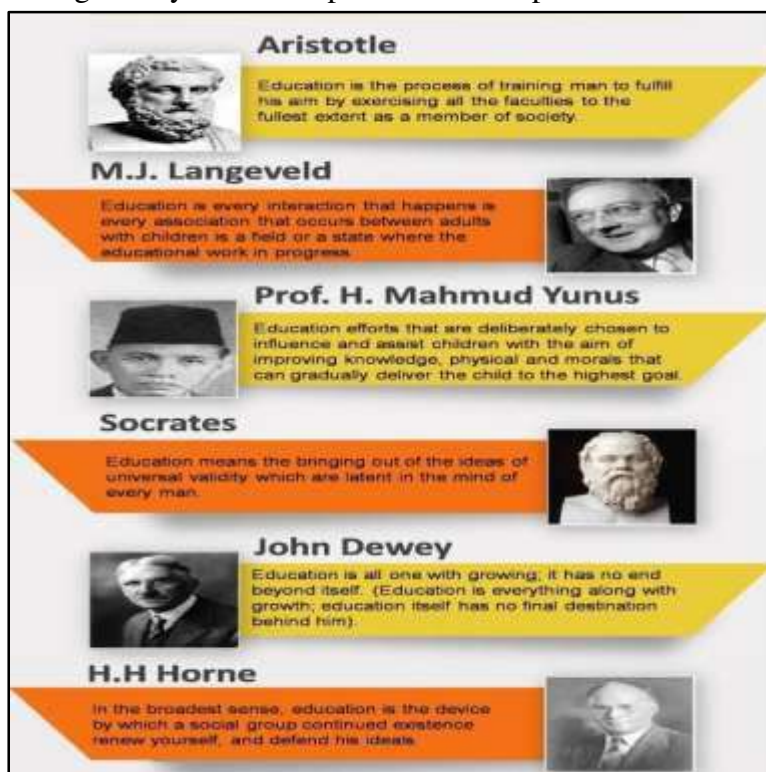


Fig.1.Definition of Education

From all above definitions it can be seen that education is elementary yet one of strongest tools that is bringing change to recent developments.

2. VERSIONIFIED DESCRIPTION OF EDUCATION

A) Short Meaning -Nature wise

Education 1.0: Dictated.

Education 2.0: Socially constructed, usually with help of Internet access.

Education 3.0: Contextually reinvented knowledge.

Education 4.0: Built through effective individual and team driven focused innovative practices.

B) What is the technology aspect of each Education?

Education 1.0: conducted at classroom doors.

Education 2.0: Cautiously adopted as open access.

Education 3.0: utilized everywhere for ubiquitous construction and transmission of knowledge.

Education 4.0: Always changes with the direct input of learners who acts as a major source of tech evolution in the innovation service production.

C) How is teaching done in each version of Education?

Education 1.0: involves teaching from teachers to students

Education 2.0: involves teaching from teachers to students and students to students.

Education 3.0: involves teaching from teachers to students, students to students, students to teachers, people - technology-people.

Education 4.0: amplifies teaching by positive innovative feedback loops, creatively and ubiquitously in all phases of living, working and learning.

D) Where does each version of Education localize?

Education 1.0: in a building

Education 2.0: in a building or online

Education 3.0: everywhere in the "creative society".

Education 4.0: in the globally networked human body.

3. EDUCATION 4.0 AND ITS CHARACTERISTICS

Education 4.0 is the required strategy for learning that adjusts itself with the trending fourth industrial revolution. In general, Education 4.0 is a belief that fosters intelligent thinking among its stakeholders. It assists education in different patterns, by the consumption of tools and resources that are technologically best. In other words, it means that instead of old classrooms patterns of chalk and talk students will enroll themselves through courses available on various moods portal

which in turn makes them self-reliable, independent and professional in terms of skills and ethics. There is no boundary in learning things.

Characteristics of Education 4.0 as follows:

- 1) It is scalable in nature.
- 2) It is transdisciplinary.
- 3) It provides experiential and Hands on training.
- 4) It is just in time information based rather than pre-requisite based
- 5) Here teachers act as mentors and coach.
- 6) It focuses on acquiring skills rather than on knowledge.
- 7) The assessment skill is formative and provides student with great ability to learn
- 8) Education 4.0 is a flexible source of knowledge/information and promotes personalized learning.

4. PATTERNS TO BE FOLLOWED TO ACCOMPLISH EDUCATION 4.0

1. Speed up Remote Learning: It will empower learning whenever, anyplace as the eLearning tools will change the general idea and will infer remote learning.

2. Customized Learning: It will bring the students customized with groups relying upon the abilities and explicit gifts. This implies that there will be an individual learning measure for every student aiding them in what they possess interest.

3. Project-based Learning: With project-based learning the students will figure out how to keep a hold and clean their abilities and figure out how to apply them over various circumstances.

4. Field specific Experience: With techno-logical progression, the training educational plan will add countless abilities centering human information and individual connection. This will give or guarantee more field experience information with the current courses.

5. Data analysis: Education 4.0 will assist the students to utilize their insight and think to inspect continuous and past examples or patterns.

6. Change in exam pattern and assessment: The current situation of theory based learning solely focuses on memorizing or doing rote learning programs and composing those in tests won't be the pattern any longer. It is fundamental to comprehend that the customary Q&A design and abstract sort questions just won't help later on. It implies the above exclusively won't stamp an individual, other than this more pragmatic stuff and exploratory information like tasks and field works will be added.

5. EDUCATION 4.0's BENEFITS FOR TEACHERS

Teachers symbolize makers of personality and change. Education-4.0 is an intelligence based digital revolution that benefits many stakeholders, teachers and educators. It is beneficial to teachers because they can convey information and fulfill the required needs of students. Teachers can indirectly teach students. They can promote digitalized personal learning goals through the

utilization of tools and techniques thus provides interesting learning outcomes for students and better educational outcomes. It facilitates educators with needs by providing the best methodology to facilitate work. It aims to improve performance by promoting teacher-skills and thus improve student -learning outcomes.

6. EDUCATION 4.0's BENEFITS FOR STUDENTS

For any organizational network, Students are the one who brings change to learning by properly gaining experience and knowledge provided by educators. It behaves students as beneficiaries. Students can connect with various stakeholders, teachers and management with the use of technology. Learning outcomes of students are directly related to the implementation level of Education 4.0. It is truly a game changer and improves student-learning outcomes.

7. CONCLUSION

From all the above points discussed it can be concluded that Education 4.0 is a reformary tool that has capability of bringing change and thus can help in overall development of teachers, students and country.

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LifeLong Learning: An analysis on how lifelong learning has become a desegregated part of human life.

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ABSTRACT

“Learning is the process of acquiring new understanding, knowledge, behaviors, skills, values, attitudes, and preferences.” It can take place at any age. In this rapidly changing world, as everything gets digital, one has to adopt learning as a part and parcel of his/her life. Lifelong learners look for opportunities to expand their knowledge and understanding. Learning helps a person to face day-to-day challenges in their lives. As changes are occurring instantly, an individual has to keep himself updated with these changes instead he will not be able to match with others and feel inferior. My paper is based on how lifelong learning has an impact on day to day life of people. Basic education is compulsory for everyone but beyond that at every step of our life learning is practiced.

Keywords: *Lifelong Learning, Digitization, day to day challenges.*

1. INTRODUCTION

A person requires learning in their everyday life as digitization is taking place everywhere from doing shopping, for making bill payments, in Children Education, advanced technology is used for financial planning and many more. In every sphere of life, learning is important. For example, Smartphones. Today everyone is using Smartphones. It is a need for today. To be adaptable to the changing world it is required to be a continuous learner.

Abandon the commonly held notion that learning is for children and young adults. You graduate high school, get a university degree and consider yourself done with education. In the past, this may have been sufficient to land and keep a great job until you retire. But the concept of being a learner has shifted. No more is the concept of learning, do, and retire. To be agile and adaptable, you need to learn, do, unlearn — learn, do, rest — learn, do, unlearn — repeat. This is the cycle of a lifelong learner.

In the most basic terms, a lifelong learner is someone who keeps acquiring new skills and capabilities well past their formal education years. It involves not only studying new topics but also developing an open-minded, positive attitude about the dynamic nature of the world. Personal development continues alongside professional development.

Lifelong learners recognize the importance and joy of growth and personal development, so they never settle for what they currently know and always seek to improve and build upon their current knowledge. Lifelong learning is the development of human potential through a continuously supportive process that stimulates and empowers individuals to acquire all the knowledge, values, skills, and understandings they will require throughout their lifetimes and apply them with confidence, creativity, and enjoyment in all roles, circumstances and environments”

Lifelong learning crosses sectors, promoting learning beyond traditional schooling and throughout adult life. It covers learning at all ages and subsumes formal, non-formal and informal learning that is flexible, diverse and available at different times and in different places. It is believed that learning is neither age-bound nor classroom-bound, but it takes place throughout life and in all kinds of situations. It not only enhances social inclusion, active citizenship, and personal development, but also self-sustainability, rather than competitiveness and employability.

Learning makes a person confident and self-sufficient throughout his/her life. Learning in pre-schooling, in primary and secondary than in colleges and after that, while a person is doing the job he has to adapt skills which are required him/her to keep updated with the existing environment and for that he goes on upgrading his/her skills by continuous learning. This is all related to learning for getting an education and learning for getting a job secured but beyond that, changes also occur in our day-to-day life where not only literate but illiterate also need learning. Digitization is taking place in every section of society whether it is in education, industrial, or our day-to-day life. A person has to adapt to changes otherwise he will not be able to cope up with this changing world.

During Covid 19, all schools have started online education, a new concept of work from home has been discovered and today many companies are thinking to adapt this concept permanently. In such a situation, people were induced to learn new technologies. People started doing online shopping and for that purpose also they must know using the internet. Printing of passbooks, getting bank statements, making online payments, and any transactions related to banks are today carried out digitally. Parents had to learn the online process of education for their children. Even payment of electricity bills, water bills, phone bills are done by using apps available for that purpose on smartphones. Our life is surrounded by the digital world so it has become compulsory for every person that he must adapt lifelong learning as part and parcel of his day-to-day life.

2. LITERATURE REVIEW

“Lifelong learning is first and foremost about learning, with this learning occurring over the lifespan” (Cornford, 2002, p.358). Concerning the issue, Edwards, Ranson & Strain (2002, p.532) assert that “any understanding of learning that is lifelong and life-wide requires analysis of the learning that takes place outside as well as inside institutionalized, accredited participation in formal education and training”. Hager (2004) perceives lifelong learning as ineluctable for humans, and informal learning as an element of lifelong learning since learning is a continuous process. Longworth (2003) deems lifelong learning as performing things in a different manner, providing learners with the tools through which they can engage in learning in accordance with their learning styles and needs, not as teaching or training in a confined meaning. The author also offers the European Commission’ definition of lifelong learning as “all learning activity undertaken throughout life, with the aim of improving knowledge skills and competencies within a personal, civic, social and/or employment related perspective” (p.83). Jarvis (2007) suggests a broader description of lifelong learning and states that lifelong learning is a mixture of processes in a lifetime while an individual integrates cognitive, emotive and practical transformation in social situations and comes to experience a continual change.

Objectives:

1. To learn about lifelong learning concepts.
2. To study how changes in human life are taking place instantly.
3. To analyze how learning helps to come front this changes.
4. To view the role played by digitization in LLL.

3. RESEARCH METHODOLOGY

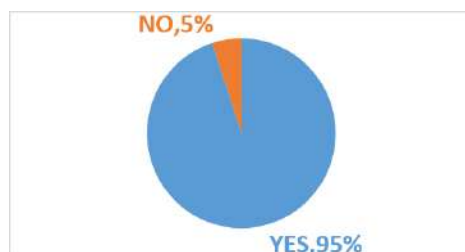
My analysis is based on Quantitative research Methodology and for that, I have used a questionnaire to draw my conclusion.

Sample size: I have taken samples of 300 people from Jalgaon city. They were in the age group of 30- 55 years working in various streams. The Population of Jalgaon city is near about 4.50 lakh. From 300 people 223 people responded. On that basis, I have made my analysis.

4. DATA ANALYSIS

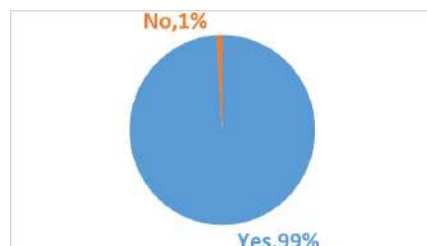
1. Do you practice lifelong learning in your Profession?

Around 95% of people said that they practice LLL in their Profession. As I have chosen people from the various stream there were people doing jobs in the education sector, in industry, in banking, some were entrepreneurs, and all stated that due to changes in teaching methods from offline to online they have to learn various online techniques like zoom meet, google meet about Microsoft teams, etc. in other sectors also digital payment method had evolved, online transactions need to be carried on so, they have to keep on learning these new concepts.



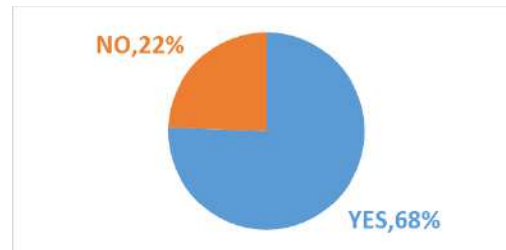
2. Do you think that LLL is connected to our day to day life?

Most of them said that LLL is connected to their day-to-day life. Some said that as they don't get time to do some of their daily work physically they do it online like banking work, doing online shopping, getting medicine, and now services like swiggy and zomato are available even in Jalgaon city, people of Jalgaon also order their food online. From carrying all this work one has to be a learner in his everyday life.



3. Does LLL go beyond Basic Education?

Here 68% said that Yes LLL is beyond basic education. In our life after completing education, there are many things which we learn from our everyday life. For some Lifelong learning means learning which starts from the age of 0-6 years and ends with retirement but around 68% people agree with my point of view that along with basic education there are many things in our life that we have to learn and which brings a change in our behavior and after retirement also that process keeps ongoing.



4. Are you motivated for LLL?

Motivation is a must for lifelong learning. Without motivation, a person will not be able to carry lifelong learning. As mentioned earlier, learning brought a change in the behavior of a person. He came to know new things which were not known to him earlier. So if a person is reluctant for any change he will not be a lifelong learner. So for LLL motivation is required. 92% of people said that they are motivated for LLL.

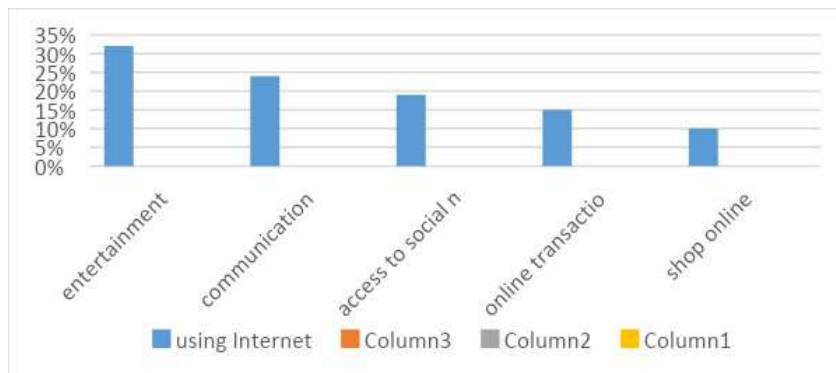


5. Do you think that Digitization and LLL are interconnected?

98% of people said yes to this question. As instant changes are taking place everywhere and there are many new things we have to learn, this is all because of digitization. Today LLL has become a need because of the digital world and therefore LLL is interconnected with digitization.



6. In your day to day life what kind of digital work you perform?

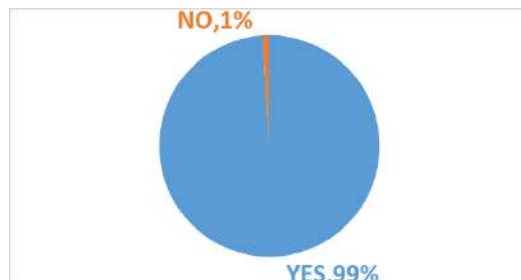


About

32% of users access the internet for entertainment, while 24% use it for communication and 19% to access social media platforms. About 15% have made some form of online transaction and 10% regularly shop online.

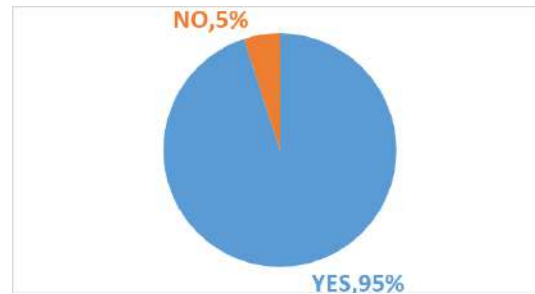
7. Do you think that LLL is needed for today?

Around 99% of people think that LLL is needed today. Some said that it is required to secure a job, others viewed that LLL is inherent in our everyday life. LLL can be in any form that is, formal, informal, or informal. Learning can be in music, dancing, cooking, and many more, and today learning is not bound to formal learning. Learning brings a change in human behavior and change can be bought anywhere and at any time. Learning starts from childhood when an infant learns by imitating their elders and continues lifelong.



8. As digitization has become involved in your day to day life, do you think that LLL has become part and parcel of your life?

Around 211 people think that LLL has become part and parcel of their life. Most people said that due to the up-gradation of technology and digital work replacing physical work in our routine life, we have to learn new things. Learning new things definitely bring changes in their lives. Today they can save time by doing their work online and can carry other work in their spare time. Children learn by using teaching apps like BYJU’S, VEDANTU etc. and other activities by using apps or YouTube. Housewives can also learn new recipes online and can become entrepreneurs. Hence digitization plays a major role in making learning an desegregated part of human life.



5. CONCLUSION

Lifelong learning is needed today. Today we can say that LLL is something beyond education. Completing your academics, doing the job, and then getting retired is not enough. Along with all these requirements which are necessary for our livelihood there are many things which we have to carry out in our day-to-day life and for that, it is necessary to keep on learning. Though we learn during our academic period and job, beyond that also we need to learn to carry on our everyday life and continue that learning after getting retirement also. Learning is all about change, and change drives learning. The two are inevitable and go hand in glove. A simple definition of lifelong learning is that it is “development after formal education: the continuing development of knowledge and skills that people experience after formal education and throughout their lives” so according to me one has to keep on learning beyond his/her life in order to survive in this changing world.

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Attitude Of B.Ed. Teacher Trainees Towards Ict In Education

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ABSTRACT

In the digital age, the use of information and communication technologies (ICT) has played a crucial role in education. ICT has made predominant role in the teaching-learning process. The teachers are the pioneer for initiating the positive attitude towards technology in education. Thus, teachers are in a position to update the technological knowledge and develop their skills in implementing innovative tools in education. In this context, attitude is the key factor to accept innovation in education. So, the investigator planned to study the attitude of B.Ed. trainee teachers towards ICT in education. The researcher adopted random sampling techniques and selected 250 B.Ed. teacher trainees from six colleges of education located in Virudhunagar and Madurai District. The investigator used the standardized tool of Nagy, J. & Habók, A. (2018) for the data collection. The data were analyzed using statistical techniques such as percentage analysis, mean, standard deviation, and 't' test. The findings revealed that there was no significant difference in the attitude of B.Ed. trainee teachers towards ICT in education with respect to course stream, type of institution, and residential area. Further, the study revealed that B.Ed. trainee teachers have found the same level of attitude towards the use of ICT tools in education.

Keywords: *Information and Communication Technology (ICT), Attitude, B.Ed. Teacher Trainees and Education.*

1. INTRODUCTION

Teacher education programs have the critical role to provide the necessary leadership in adapting pre-service training to teacher education to deal with the current needs of the educational society. They need to learn and practice the innovative tools for learning with the aim of enhancing the teaching-learning process. Moreover, teacher education programs must also give guidance in implementing how the new technologies can best be used in the context of the students need. The main objective of inculcating ICT in teacher education is to improve teachers' knowledge and skills through ICT integration. The second objective is to develop skills in information processing and developing learning resources. Attitude is the ability to express the ideas or opinions on something. The low quality of ICT integration in schools is the result of low attitude of teacher and teacher trainees. Thus, the teacher educational institutions act as a major role in providing

training in implementing the use of ICT in teaching learning process. Attitude towards ICT in education is to be strengthened in the academic curriculum.

2. NEED AND SIGNIFICANCE OF THE STUDY

Today's students live in a global and digital age. The teachers determine the future of India. Hence, the teachers and B.Ed. teacher trainees have a major responsibility in shaping the future generations in adopting digital technology. The research studies of pre-service teacher training initiatives and developments revealed that there is a strong government commitment and support towards the implementation of ICT. The importance of ICT learning to teachers is mandatory in the present scenario. Hence, teacher educators and teacher trainees require orientation towards the use of ICT in their teaching-learning process. National Curricular Framework emphasized that the use of ICT in the teaching-learning process is essential. Great learning can be enhanced through the use of New ICT tools in the classroom transaction. In this connection, all the University has incorporated ICT-related curriculum for B.Ed. trainees. It develops the attitude towards ICT in Education. Attitude is the psychological factor that determines the usage of ICT in education. If the B.Ed. teacher trainees have a positive attitude towards ICT, the better will the learning outcome in the society. Thus, the researcher is intended to study the attitude of B.Ed. trainee teachers towards ICT in education.

Objectives

1. To find out the level of attitude of B.Ed. teacher trainees towards ICT in Education.
2. To find out whether there is any significant difference in the attitude of B.Ed. teacher trainees towards ICT in Education with regard to course stream.
3. To find out whether there is any significant difference in the attitude of B.Ed. teacher trainees towards ICT in Education with regard to type of institution.
4. To find out whether there is any significant difference in the attitude of B.Ed. teacher trainees towards ICT in Education with regard to residential area.

Hypotheses

H₀1: There is no significant difference in attitude of B.Ed. teacher trainees towards ICT in Education with regard to course stream.

H₀2: There is no significant difference in attitude of B.Ed. teacher trainees towards ICT in Education with regard to type of institution.

H₀3: There is no significant difference in attitude of B.Ed. teacher trainees towards ICT in Education with regard to residential area.

Delimitation

1. The study is limited to B.Ed. trainee-teachers in Madurai and Virudhunagar district only.
2. The investigator has selected only 250 students as sample for the study.

Methodology

The investigator has used survey method in the research study.

Population and Sample

The population for the present study consists of B.Ed. trainee-teachers studying in Colleges of Education in Madurai and Virudhunagar district. The investigators used random sampling technique. B.Ed. trainee-teachers studying in six colleges of education were randomly chosen for the study.

Table 1
Level of Attitude of B.Ed. Teacher Trainees towards ICT in Education

Category	Low		Moderate		High	
	N	%	N	%	N	%
Attitude	31	57.23	70	73.68	149	90.13

Table 1 reveals that attitude level of B.Ed. trainee-teachers towards ICT in Education. In this level 57.23% of B.Ed. teacher trainees have low, 73.68 % of them have moderate and 90.13% of them have high level of attitude towards ICT in education.

Tool Used

The investigator used the standardized tool of Nagy, J. & Habók, A. (2018). The research tool consists of questionnaire of 24 items.

Analysis of Data

Hypothesis 1

There is no significant difference in attitude of B.Ed. teacher trainees towards ICT in Education with regard to course stream.

Table - 2
Distribution of mean score of arts and science B.Ed. trainee-teachers in their attitude towards ICT in Education

Variable	Type of school	N	Mean	S.D	Calculated 't' value	Table value	Remarks
Course Stream	Arts	98	73.33	17.25	0.79	1.96	NS
	Science	152	73.91	16.02			

(At 5% level of significance the table value of 't' is 1.96)

It is inferred from the above table that the calculated t-value is 0.79 which is less than the table value. Hence the null hypothesis is accepted. So, there is no significant difference in attitude of B.Ed. trainee-teachers towards the use of ICT in education with respect to course stream.

Hence it is concluded that both arts and science B.Ed. trainee teachers have same level of attitude towards ICT in education.

Hypotheses 2

There is no significant difference in attitude of B.Ed. teacher trainees towards ICT in Education with regard to type of institution.

Table - 3
Distribution of mean score of Govt/Aided and private B.Ed. trainee-teachers in their attitude towards ICT in Education

Variable	Type of school	N	Mean	S.D	Calculated 't' value	Table value	Remarks
Type of Institution	Govt/Aided	136	72.83	16.36	0.3747	1.96	NS
	Private	114	74.69	16.64			

(At 5% level of significance the table value of 't' is 1.96)

It is inferred from the above table that the calculated t-value is 0.3747 which is less than the table value. Hence the null hypothesis is accepted. So, there is no significant difference in attitude towards the use of ICT among B.Ed. trainee-teachers in terms of their medium of instruction.

Hence it is concluded that Tamil and English medium B.Ed. trainee teachers have same level of attitude towards ICT in education.

Hypothesis 3

There is no significant difference in attitude of B.Ed. teacher trainees towards ICT in Education with regard to residential area.

Table - 4
Distribution of mean score of rural and urban B.Ed. trainee-teachers in their attitude towards ICT in Education

Variable	Type of school	N	Mean	S.D	Calculated 't' value	Table value	Remarks
Residential area	Rural	115	71.28	17.30	0.332	1.96	NS
	Urban	135	75.73	15.52			

(At 5% level of significance the table value of 't' is 1.96)

It is inferred from the above table that the calculated t-value is 0.332 which is less than the table value. Hence the null hypothesis is accepted. So, there is no significant difference in attitude of B.Ed. teacher trainees towards ICT in Education with regard to residential area.

Hence it is concluded that both rural and urban B.Ed. trainee teachers have same level of attitude towards ICT in education.

3. RESULTS AND DISCUSSION

- There is no significant difference in attitude of B.Ed. teacher trainees towards ICT in Education with regard to course stream.
- There is no significant difference in attitude of B.Ed. teacher trainees towards ICT in Education in terms of their type of institution.
- There is no significant difference in the attitude of B.Ed. teacher trainees towards ICT in Education with regard to a residential area.
- Arts and Science stream B.Ed. trainee-teachers have the same level of attitude towards ICT in Education.

- Govt/Aided and private B.Ed. trainee-teachers also have the same level of attitude towards ICT in Education.
- Rural and urban B.Ed. trainee teachers have the same level of attitude towards ICT in Education.

4. EDUCATIONAL IMPLICATIONS

- Teachers may implement the ICT tools in their teaching-learning process.
- Teachers may be given better opportunities to develop their technological skills.
- Group activities such as E-Quiz, group discussions, competitions, and online games may be conducted in classroom transactions by using digital tools.
- Workshop and webinar may be organized to create exposure to learning digital tools.
- Teachers may be adapted newly emerged online tools in their classroom transactions.

5. CONCLUSION

The results of the study showed that there is no significant difference in the attitude of B.Ed. trainee-teachers towards ICT in education in terms of course stream, type of institution, and residential area. It is concluded that the study has found to be the same level of attitude of B.Ed. teacher trainees towards ICT in education.

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A Study Of Ict Used In Teaching Special Reference To Degree College Teachers

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ABSTRACT

Teaching and Learning process is undergoing a remarkable change over the ages. Traditional methods of teaching are being now modified according to the new requirements of learning and the changing world educational scenario. Modern age education has adapted itself to the various ICT techniques of teaching. This Research Paper on A Study of ICT Used in Teaching Special Reference to Degree College Teachers attempts to bring the focus on latest teaching methods inculcated with the help of ICT techniques to satisfy current educational needs. It is a comprehensive analysis of ICT Techniques used in teaching learning process. There is a balanced use of primary and secondary data for supporting the different inferences. Primary data was collected through questionnaires and personal interviews of the teachers and students whereas secondary data was collected from the e-books and websites. General Pattern of the study was to analyse Teachers and Students perspective about the Use of ICT in teaching-learning process in current educational system. This has led to conclude how far the hypothesis are confirmed.

Keywords: *ICT, Counsellor, Facilitator, Mentor, Coach, New Educational Scenario, New Requirements of Learning*

1. INTRODUCTION

“ Gurur Brahma, Gurur Vishnu, Gurur Devo- Maheshwara

Gurur Sakshat Parbrahma, Tasmay Shree- Gurave Namah”

Meaning:

The Guru is Brahma, the Guru is Vishnu, the Guru Deva is Maheshwara (Shiva), The Guru is Verily the Para-Brahman (Supreme Brahman); Salutations to that Guru.

According to the above Sanskrit poetic phrase the “Teacher” is considered as “Guru” which has been given the importance as that of the almighty devoted gods “Brahma, Vishnu and Mahesh (Shiva). So this focuses on the meaning of the term teacher and what is its importance to the students and the society. The teaching and learning process in the ancient times was very different than that which is followed in the 21st Century. The history of teaching goes back to the very ancient times even before the 10th Century. The main aim of the education in the ancient times was to provide good training to the young students in their social, economic and religious duties. The subjects of education mainly included the Vedas, Puranas and the Upanishads.

Following were the methods used in the Ancient Times in teaching and learning-

- Memorization
- Critical Analysis
- Introspection
- Story Telling
- Questions and Answers
- Practicals and Seminars

The role of the teachers and teaching methodologies undergone many changes with the changing eras. Today the Teacher cannot be just an educator which means a person making students acquainted with curriculum. The teacher has to play the different roles to make teaching and learning process very effective. It is a very dynamic and competitive business environment today. In order to be the most efficient teacher different innovative roles have to be played by the teacher. Following are some of the dynamic roles of teachers in new educational environment.

Dynamic Role of the Teacher in the new educational environment-

- Facilitator
- Coach
- Mentor
- Guide
- Counsellor
- Reflector

The technological advancements and the use of Information technology has a wider scope. The different aspects of Information technology has been used in different fields. Use of Information Technology has also extended to the educational sector with latest technological developments. Technology is the need of the day. In educational sector also in order to facilitate effective teaching, make learning interesting, and to be competitive in the new educational environment there is a need of “ **Use Of ICT in teaching**”. There is a transformation in the educational sector from traditional chalk board method to innovative methods of teaching due to Use of ICT in teaching.

ICT refers to “ Information and Communication Technology”. Today different innovative ICT tools are prescribed for matching the new educational environment and to make teaching learning process more effective. It is considered that Use of ICT in teaching is the need of the day.

Following are some of the innovative techniques for teaching with the help of ICT-

- Interactive Whiteboard
- OHP (Overhead Projector)
- Computers/Laptops
- Projector
- PowerPoint
- E-Reader(Kindle etc)
- Intranet
- Internet

E-Books

Applications for online teaching like Google Meet, Webex, Microsoft Teams, Zoom

2. ORIGIN OF THE PROBLEM

At the Degree college level maximum teachers should use ICT in their day to day teaching process but unfortunately maximum teachers avoid such kind of technology in their teaching. The consequence is that students are not able to get proper knowledge of the subject and are not able to develop interest in the learning process. So the study will be conducted from Teachers perspective as well as the Students perspective to find out the effectiveness of Use Of ICT in teaching- learning process with reference to Degree College.

3. OBJECTIVES OF THE STUDY

- To the study the Use Of ICT in teaching with reference to Degree College Teachers
- To study the different methods of ICT used in teaching process
- To find out the general tendency of attendance of the students towards ICT lectures
- To study the Scope of ICT in teaching
- To study the impact of ICT in teaching
- To study the problems of teachers and students in Use of ICT in teaching
- To study any special suggestions/ feedback from teachers or students

HYPOTHESIS :

H0 : The Use of ICT doesn't have a considerable impact on the Teaching-Learning Process.

H1 : The Use of ICT has a considerable impact on Teaching-Learning process and it makes teaching learning process more effective and interesting.

4. REVIEW OF LITERATURE

1) ICT stands for Information and Communication Technologies and are defined , for the purposes of this primer, as a “diverse set of technological tools and resources used to communicate, and to create, disseminate, store and manage information”. These technologies include computers, the Internet, broadcasting technologies (radio and television), and telephony- **Blurton C.**

2) ICT (information and communications technology – or technologies) is an umbrella term that includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as videoconferencing and distance learning. ICTs are often spoken of in a particular context, such as ICTs in education, health care, or libraries. The term is somewhat more common outside of the United States. - **Margaret Rouse**

Significance of the Study:

Information technology is growing very fast and it is very significant to the students for acquiring the knowledge.

- 1) The above study will focus on the students ability of learning the subjects with the help of ICT.
- 2) The study will examine the teaching skills of the teachers with the help of ICT.
- 3) The study will evaluate the effectiveness of Use Of ICT in teaching – learning process.

Research Methodology :

- 1) Explorative Research Method is applied.
- 2) Survey method is followed.
- 3) Sample Size of the Survey is **100** respondents.
- 4) Information is collected from 5 different Degree Colleges.
- 5) 10 Degree College teachers and 10 Degree college students from each college are randomly selected.

Collection of Data:

- ❖ Primary Data- The Primary Data in respect of the number of respondents will be obtained from the Questionnaire designed especially for this purpose.
- ❖ Secondary Data- The Secondary Data for the research study will be obtained from the References, Journals, Websites related to the educational sector.

Data Analysis & Interpretation:

After collection of data it is tabulated and graphical representation method is used. These Statistical methods will be more suitable for finding the solutions to the problem and to achieve the objectives of the study.

Following is the Analysis of the data as collected with the help of Questionnaires. Some important questions are analyzed as per the responses from the sample respondents.

5. FINDINGS OF THE STUDY

- 1) 76% of the teachers make Use of ICT in teaching. This shows that teachers are more considerate towards ICT in teaching methods. Teachers are becoming innovative to get adapted to the changing educational environment and to make teaching learning process more effective.
- 2) 86% of the teachers feel that ICT is necessary in teaching methodology of new educational environment. This result focuses on the concern of the teachers towards Use of ICT in teaching. Teachers have changed their role from being a traditional teacher to a dynamic and innovative tutor to make the learning process more effective.

- 3) The study shows that the most popular technique of ICT used by most of the teachers is Power Point Presentation (PPT). About 60% of the teachers make of PPT for delivering the lectures with the help of ICT. They find this technique more effective for teaching the curriculum. Other methods like CDs, E-books are used in a very less frequency by the teachers. 22% of the Teachers use miscellaneous techniques of ICT like Intranet, Over Head Projectors (OHP), E-Reader (Kindle) etc for delivering lectures with the help of ICT.
- 4) Use of ICT is very essential in the changing educational environment as it is the need of the day. In order to make the teaching-learning process more effective Use Of ICT is very important in teaching methods. So the same thing is considered by the educational institutions also. The Degree Colleges provides a good support, cooperation and encouragement to the Teachers to make Use of ICT in teaching. 82% of the Degree College teachers get encouragement from their institutions for the Use of ICT in teaching.
- 5) 76% of the teachers are of the view that ICT techniques are used in the new educational environment to make teaching-learning process more effective. 24% of the teachers are of the view that ICT techniques even though they are essential are still not used in the new educational environment.

Testing of the Hypothesis:

From the above Survey results it is proved that the Use of ICT techniques in teaching is very essential and important and it makes the teaching-learning process very effective and interesting. It is very important for the teachers as well as for the students. It has a considerable impact on the teaching-learning process.

Thus the following **Null Hypothesis H0 is Rejected.**

H0 : The Use of ICT doesn't have a considerable impact on the Teaching-Learning Process.

So as per the survey results the following alternate **H1 hypothesis is accepted.**

H1 : The Use of ICT has a considerable impact on Teaching-Learning process and it makes teaching learning process more effective and interesting.

6. LIMITATIONS OF THE STUDY

ICT is necessary and useful tool for the present generation teaching and learning process. The limitations of the study are as the following:

- Limited Sample Size
- Data is collected only from Selected colleges of Mumbai due to some constraints.
- From every Degree college Survey is conducted from only 10 teachers and 10 students which is a very restricted Sample Size of the Universe.
- Data is interpreted on the basis of the Survey conducted with the help of Questionnaires. The responses are purely personal responses.

7. CONCLUSIONS

ICT is very important in today's educational environment. Change is the need of the day. As the world is changing we also need to implement changes in the techniques of teaching. Today Teachers cannot follow the traditional methods of teaching. As the role of teacher has undergone changes the techniques of teaching also require modifications. As per the above conducted study it has been proved that Use of ICT in teaching is very important and relevant to make the teaching-learning process more effective and interesting

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The Impact of COVID-19 Pandemic on Education Fosters a Shift into Online Learning in India

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ABSTRACT

The study explores the impact of the COVID-19 Pandemic on education fosters a shift into online learning in India. The breakout of COVID-19 has had a destructive effect on education in India. Utilizing online learning throughout the outbreak is the best approach to maintain one's education. The entire human population is baffled by today's modern unprecedented and unanticipated paradigm change. As the world grows more complex, so are the challenges we face. COVID-19 is now a worldwide outbreak since it has spread from country to country. Everyone, irrespective of where they come from, their degree or money, has been touched by it. Inferior residents in India have not had the same impact on the country's population overall. There is no room for laxity in schooling. Students from wealthy families who have the support of their parents may be able to pursue alternate schooling options. When schools were ordered to shut, many impoverished people remained cut off from the outside world. To provide one example, this crisis has brought to light the shortcomings of our educational institutions, which vary from a shortage of bandwidth and technology essential for online education to a resource imbalance. Ensuing in the rapid closure of schools, e-learning technologies have replaced face-to-face sessions. Due to the lack of affordability and accessibility, online learning technologies and networks for successful student learning have been thrown into the limelight. The outbreak has emphasized the need for increased training for teachers in digital technologies to stay up with today's rapidly changing educational scene. In the post-pandemic period, online learning and virtual education may play an essential role in education. Post-pandemic teaching and research methodologies must be designed by academic institutions in needed to guarantee student learning outcomes and academic standards. The author explains the impact of the COVID-19 Pandemic on education boosting online learning and its effects on the education system in India.

Keywords: *COVID-19 Pandemic, Education, Online Learning, Impact, and India.*

1. INTRODUCTION

The Pandemic of COVID-19 has affected up to 1.6 billion youngsters in 190 nations across the seven continents. Ninety-four per cent of all pupils affected by the closure of schools and other educational institutions are located in the middle- and lower-income countries. The World Health Organization labelled this disease a pandemic on March 11th, 2020, following its detection in Wuhan, China, in late December 2019. (WHO). COVID-19 had a terrible effect on education systems in both rich and developing countries, causing a global health and economic collapse (Xiang and colleagues, 2019). Education systems all through the globe were forced to close

because of the outbreak of COVID-19, which had a devastating influence on the students enrolled. Teachers and students were separated because of the contagious nature of COVID-19, which had a significant impact on their interpersonal relationships. E-learning has been replaced by this method in the absence of face-to-face interaction. During the outbreak of COVID-19, students' attitudes and readiness for E-learning systems must be examined. As an outcome of this outbreak, schools throughout the globe were promptly closed, with federal regulations to adopt social distancing to decrease overall fatality from COVID-19.

On academic campuses, where large numbers of people congregate, "social distance" or "physical separation," an essential worldwide outbreak preventative, has aimed to minimize personal communication to lower the chance of rapid spread within societies (Weeden & Cornwell, 2020). The rapid advancements in technology forced the need for educational updating. They have to be able to examine at any time and in any place. (Wolfinger, 2016). The COVID-19 virus has spread to every country and territory on the planet. As an outcome, significant advancements in education have been made throughout human history. Education, social activities, and mental health might suffer if all education systems were shut down (Odriozola-gonzalez'et al. 2020).

Throughout the world, students and educational institutions are adopting online learning technology. It's been generally accepted because of its ease of use, adaptability, and capacity to personalize the environment. There are some disadvantages to online learning, such as social isolation and a lack of connection between students and teachers (Sá, M.J.; Serpa, S; 2020). Before the current epidemic, online learning was not regarded as a reliable teaching method (Mahajan, M.V., 2020). To assist students in adapting to the pandemic challenge, several schools and institutions have begun to experiment with online learning programs. Online learning technologies are being used primarily by teachers to make their students' lives as simple as possible (Nassoura, A.B, 2020). COVID-19 Outbreak has resulted in nearly all schools across the world switching to online learning. Online -learning has never been a part of our children' lives previously. To prevent such issues in the future, our study focused on the online learning technological concerns and limitations encountered during the Pandemic in India.

The Impact of COVID-19 on Education in India

In both urban and rural locations, the Indian education system is still in its infancy. 1.21 billion Students, or 69.3 per cent of all students in 188 countries, would be unable to return to school or college in May 2020, according to UNESCO figures (Grosseck., 2020). Online teaching and grading are examined in this study, focusing on students attending online courses while COVID-19 occurred in India. In response to the COVID-19 outbreak, several nations, especially schools and universities, have implemented lockdown precautions. As an outcome of the COVID-19 lockdown, India's educational institutes underwent a radical shift. There has been an increase in the number of schools that prohibit pupils from possessing or using any kind of online technology. Adapting to this new baseline is makes it more challenging for teachers and students. For teachers, courses and training help them adjust their techniques to online learning and create productive lessons. In light of these closures, overseas students' educational and legal standing in their host countries were adversely affected. As an outcome, the entire network would have to shift from a face-to-face to an online learning setting. Because they were forced to respond swiftly to the instances going demands with no prior formal training, academic staff found it particularly difficult during this time frame. Students' lives were severely harmed when they were compelled to move caused by the loss of their internship. In contrast to the technology they already possessed, they needed to get newer (Kulkarni et al., 2021). Additionally, the outbreak wrought chaos in education.

This was the first time in history that students could learn from the comfort of their own homes using new technology (Zimmerman., 2020). The effectiveness of a school education that incorporates networking and approaches and educational content is a subject of discussion. The usage of digital technology in the classroom must be reimagined to improve student connections and the educational experience itself. Thousands of youngsters are unable to go to school every day because of the Pandemic. The prevalence of COVID-19 has hampered students in conflict and disaster-stricken nations. Numerous educational systems have been forced to stop lessons, examinations, internships, etc., because of the lockdown and use of online means of instruction. When a sudden and unforeseen situation caused the school to close, the instructors and pupils were bewildered and unsure about continuing. Only after the lockdown ended, everybody recognize how much they had learned about dealing with future breakouts. As an outcome of COVID, academic institutions face various challenges and possibilities to improve their computer systems. "On the other hand (Pravat, 2020). The ability to manage knowledge transfer has now been enhanced by shifting from face-to-face interaction to virtual communication, an essential innovation aspect in education institutions. This situation necessitates schools to take on issues head-on and grab new opportunities to boost innovation through innovation activities. Considering everything, we can see just how badly the public education system has indeed been impacted. As a result, there was a seismic change in educational interventions. If schools are closed due to health concerns, the World Partnerships for Learning thinks that backup arrangements must be put in place so that kids may attend the school. All individuals have the right to an education, irrespective of where they reside or how wealthy they are. Importance should be given to educating children, teens and adults in the aftermath of a natural disaster. There is still a strong emphasis on face-to-face teaching at India's educational institutions. Certain academicians already adopt online learning, which demonstrates how many will be using old ways in India.

The Impact of COVID- 19 on Learners

The educational system has been rocked to its core by an unparalleled medical issue in the last few years. We have to understand better how children learn online in COVID-19. More studies need to be done to discuss the problems children face and the techniques they use to overcome them. Because of this, this study seeks to plug the hole. According to a study employing various approaches, school children have many risks with online learning. When it comes to learning new skills, they are completely uninterested. According to the data, the COVID-19 course had the most decisive influence on students' emotional wellbeing and academic achievement. Learners employed several different approaches to increase their efficiency, including requesting advice, enhancing their technical expertise, and defining goals.

Classroom education, policymaking, and continued studies are all covered in this report. Learners' educational attainment, social connections, and emotional wellbeing may suffer if all academic institutions are shut down (Odriozola-gonzalez'et al. 2020). Many learners suffer from anxiety, tension, exhaustion, a lack of excitement, abnormal sleep habits, and other bad feelings as the outcome of the recent outbreak. They are more insecure and anxious since they aren't spending more time outdoors. Students are now applicable to a wide range of technology in education. Since of their new educational environment and learning style, they are having an awful time adapting. Increasing numbers of young people are afraid that they won't be able to return to school. There were also consequences for children in the classroom. The decline in student enrollment costs countries a great deal of money. According to a study, learners tend to profit from studying abroad if they can do so from home comfort. The current situation has had a severe impact on many

students' learning. The social and communication abilities of today's youth have deteriorated due to the lack of face-to-face interaction with their classmates. Emotional and mental wellbeing suffer greatly. Skills and knowledge will decline if education levels fall. Most occupational and practical training ways fall short because of a lack of hands-on experience and experimentation to achieve their stated goals. Investing in one's education is the best way to enhance one's learning abilities in an online platform during the COVID-19 Pandemic.

The Impact of COVID-19 on Educators

It is helpful to teachers who have been educated mainly in face-to-face work to teach online. The Covid-19 virus and the consequent school closings have compelled educators to go online for pupils to complete their courses. Educators, like pupils, have been impacted by the epidemic, which has raised worry levels among them. Researchers concluded that teachers were under tremendous pressure in a lockdown because of the rapid shift to online learning (Besser et al., 2020). Stress, melancholy, and sleeplessness are side effects of his home-teaching duties (NG, 2007). For educators to excel in online teaching, they must have the necessary skills, understanding, and capabilities. When COVID-19 struck in 2013, our perspective on the globe significantly shifted. After a sickness, educators often feel isolated and lonely, defined by social isolation and lockdown procedures (Smith and Lim, 2020). As an outcome of COVID-19's fast proliferation throughout the world, educators see a wide range of repercussions on all of these dimensions of their professional lives. Maintaining social isolation and reducing the transmission of contagious infection have been the primary goals of this method (Sheikh et al., 2020; Van Lancker and Parolin, 2020; Viner et al., 2020). Educators' responsibilities have increased to the point that they must deal with an extensive program and the supervision of a large number of students. Due to a shortage of online learning resources and techniques, educators of disabled students cannot satisfy their students' academic goals. It can be challenging for educators to locate and use the many platforms and educational resources available. Education has been disrupted, and this has resulted in widespread falsehoods. A co-curriculum is not possible. Educators working in traditional classrooms with technology like blackboards, chalkboards, and smartboards expressed anxiety about online learning. They intended to be prepared for the problems of the present day. Some educators were forced to hunt for work outside of the classroom after losing their jobs or seeing their pay postponed. Instructors' self-confidence suffers because of their absence of education and skills in online education.

The Impact on COVID-19 on Parents

In the COVID-19 outbreak, routines have been disrupted, relationships have been altered, and child's school and leisure activity have been altered. Studies examining the impact of COVID-19 on children may benefit from a knowledge of how households cope with these shifts from parents' perspective. However, school closures and other educational disturbances may have a detrimental influence on students, but the effects may rely on how often and how well parents interact at home (Kuhfeld et al., 2020). It is conceivable that the COVID-19 outbreak could place low-income students at an increased danger of academic and behavioural issues because of differences in family involvement in their education (Kalil et al., 2012). Poorer and less educated parents may be negatively affected by the COVID-19 problem since their children always have a lower academic and emotional growth level than their more educated peers (Attanasio et al., 2020). Loneliness, hopelessness and other depressive disorders are among the lifestyles factors that contribute to a more stressful home environment for parents (Conger et al., 2002). To protect children and avoid

future pandemics, parents and caregivers need to be bolstered by academics, which might have a disastrous impact on society (Cluver et al., 2020). Unfortunately, most parents do not offer their children an atmosphere that is as conducive to learning as a traditional school. COVID-19 has resulted in job losses for several families, but online technologies also open up new opportunities. Due to a significant weak working world, many people are forced to accept employment with lesser salaries. Parental efforts to generate money for their children's online education are joint. In terms of fairness, it is vital to acknowledge the impotence of those parents who were about to observe and manage their children. It's essential to identify the effects of salary decreases and decreases in compensation systems. The economic position of those susceptible to COVID-19 and who may require additional childcare as an outcome of an outbreak is being questioned. Relationships with children and parental participation are intertwined for a healthy and happy family.

Online Teaching-Learning during COVID-19

Most individuals have come to realize since COVID-19 that their current lifestyle no longer functions. Education is one of many areas that have to be enhanced throughout society as a whole. India's classrooms will be closed till March 2020 in the event of a fast-spreading pandemic. Students, parents, and teachers have disturbed their lives by an emergency lockdown as a preventive strategy. For this insoluble issue, educational establishments have implemented online learning. Change in teaching methods has offered both challenges and opportunities. People have been forced to break up because of the worldwide outbreak of Covid-19. Because people are commonly constrained to stay indoors, prolonged periods of isolation can have a detrimental effect. In this sense, online teaching-learning may play an essential role in maintaining people's interest and reducing their level of anxiety and tension. In a study, an online teaching-learning approach is in comparison to a conventional teaching approach. Online teaching-learning beats traditional classroom learning in regards to student performance. Online teaching-learning's adaptability and accessibility may benefit and damage educators and students equally. Teachers can expand the population in online education because of cutting-edge technical solutions (Appana, 2020). They involve learners in recorded and live discussions with world experts by viewing and listening to several online methods and equipment (Arkorful & Abaidoo, 2015). Many schools are now offering online teaching-learning, and many of them claim that they've already achieved 90% of their student population and have set up online services for their students. Several schools have openly acknowledged the difficulty of introducing a new teaching method because of communication and internet access issues. Several tactics have been tried since the lockdown began, including recording and disseminating teachings via social networks or the school's webpage. Learners that have access to a stable internet connection can efficiently complete their assignments, but this is not the case for most students (Ary & Brune, 2011). This type of online teaching-learning is becoming more popular among students. An online teaching-learning environment is essential to keep students and teachers interested and secure during Covid-19's lockdown time. There are several online learning portals put up by the Indian government to protect educational programmes running during the government shutdown. In online teaching-learning, many software applications are utilized to broadcast classroom information and improve student-teacher interaction. This technology enables teachers to deliver real-time teleconference to pupils, improving distance education programmes' efficacy.

For instance, online teaching-learning has been hindered by a deficiency of face to face contact and barriers in getting elevated online (Sun & Chen, 2016, Claywell et al., 2016; Arasaratnam-

Smith and Northcote, 2017; Claywell et al. 2016). Teachers must be adaptable and transformational in their approach to coping with the COVID-19 outbreak because there is no predetermined plan. Educators must come up with modified remedies for each school as the disease grows. Examine the educational standards and treatments that have emerged in various nations due to a COVID-19 outbreak. Because of this, younger people's academic programs are now being protected, and the speedy creation and execution of adaption strategies. However, there are other obstacles to overcome before they can be a good teaching-learning tool. Whenever it relates to the COVID-19 Pandemic, teachers should be confident in the technologies used by the world's best schools before they embrace online teaching-learning.

COVID-19 may benefit from online learning as a short-term remedy and a great lesson. Students should be aware of the more significant inconsistency of online teaching-learning, limiting their capacity to learn more successfully and efficiently. Students will need to improve their ability to focus and regularly concentrate when transitioning from conventional to online schooling. Many pupils may not even be allowed to use the connection or the web as an outcome of that one. Whenever it was new to online education, now is the most fantastic time to get started. The use of blended learning enables educators to work remotely while still having full access to all the resources to deliver their lessons. As a result, pandemics tend to generate disruptions in the process of teaching-learning. Emergencies, such as loss of production or outbreaks may benefit from online learning. Various online learning methodologies and tools are essential since learning is an ongoing process. The government is praised for its online learning initiatives. Utilizing an online teaching-learning environment has its advantages and disadvantages, which have all been covered in this study. Students and teachers alike are well-versed on the Online Learning program's lockdown features.

The Benefits of Online Learning

Teaching in education is changing due to the rise of online teaching-learning. Due to the additional responsibilities of teaching an online class, several instructors are hesitant to do so. There may be a more significant responsibility bar for online learning than traditional education (Baran, Correia, & Thompson, 2013). Some instructors find the transition from face-to-face to online education more difficult because of the increasing expectations placed on educational technology (Murphy, Levant, Hall, & Glueckauf, 2007). According to Baran et al. (2013), online learning is distinct from classroom instruction and necessitates its technique. The following are a few benefits of online teaching-learning:

Taking Online Classes Is Convenient and Easy: When it comes to online teaching-learning first and most evident benefit, freedom takes the cake. Some of you may face a long trip home after a long day at work. It's hard to stop by a new site on the way home.

Online Classes are Flexible: You can study where ever you choose using online teaching-learning, which saves you time and lets you learn when it's most flexible for you.

Online Classes are more Cost-Effective: To save money, academic institutions may no longer need to rent out a physical location to conduct online courses. Changes to the system will encourage students to take more classes for less money.

Online Classes Encouraging more interactions: When it comes to education, many people believe that traditional classroom instruction is the most effective and beneficial way to learn. However, this is not always the case with an online class. There is, however, no rear row. Everyone could see everything that was going on from where they were standing right now. When students are frightened to speak in front of the class, they can now meet with a teacher alone.

Online Classes, a broader range of educational options are available: Thanks to the internet, teachers now have access to a wide range of new training options. With online classes, students may study at any time of day or night, and with teachers in any time zone, from anywhere in the world.

2. CONCLUSION

The COVID-19 has had a significant impact on institutes in India. Despite the challenges, there are new chances. Open and remote learning may be made accessible using modern technology, as demonstrated by COVID-19. Due to India's lack of technology resources, this is a significant issue. Sure, pupils might be able to profit from the current online teaching-learning environment. Millions of individuals might benefit from the extensive usage of the internet by India's children. A catastrophe like COVID-19 has made it imperative for colleges and universities to improve their technical and human resources capabilities immediately. As long as the COVID-19 issue persists, internet resources must be exploited to their utmost potential.

All children in India must be able to go to school throughout the COVID19 Pandemic. Online practising should be permitted after the lockout is removed. Statistical tools may be used to examine the impact of COVID-19 on India's educational infrastructure on a deeper level. Everyone on the earth is at risk from the Pandemic. The elderly haven't been the only ones to receive attention. As a condition of their high levels of stress, they are more susceptible to various health issues. As parents, we play an essential role in the lives of our children and teenagers. Keep in mind that when things are rough, be courteous and don't blame others. Schools and institutions around the country have been closed as a result of the lockdown. Children and teenagers are more prone than every age group to have a variety of psychological concerns. Watching the effects of the shutdown on much younger person's daily routines and social media will be fascinating. Depression, anxiety, and difficulty focusing and paying enough attention are just indicators that can accompany mental condition. Indian education has been severely affected by the emergence of COVID-19. In the beginning, public schools and other educational establishments were shuttered by the government. Authorities and academic institutions have said that they would begin delivering online courses within a few of weeks. When children are taught online rather than face-to-face, the teaching-learning process is slowed down. The online teaching-learning method is often regarded as a successful method of teaching in educational settings in India.

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Efficiency Analysis of Virtual labs on Earned Value Management

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ABSTRACT

This paper examines the efficiency of designing virtual labs on complex topics in software project management. It also examines the efficiency of virtual labs in making the concept clear to the students in an online teaching learning environment. It helps works with students in a virtual lab setting, logistics, and methods to resolve issues. To demonstrate the feasibility of a virtual lab, a mixed-methods study consisting of quantitative surveys and qualitative data examined changes in students' confidence as measured by outcome expectations. In virtual labs, students conducted a faculty-designed project and analyzed the data. Student worksheet provided qualitative evidence of the student experience in a virtual lab. Students reported individual growth, self-learning, and appreciation of the shared group experience with a common goal.

Keywords: *Virtual labs, Virtual practicals, Remote experiments, Software project management, Earned value analysis*

1. INTRODUCTION

The concept of a virtual laboratory in the computer sciences is one with many complications. These may relate to the purpose a virtual laboratory is seeking to address, its mode of delivery, the scope of delivery, the experience of both students and tutors, and indeed the suitability of an activity for implementation in a virtual laboratory. [1] The concept also excites opinion, both for and against, in many educational circles. In this article, we will explore these concepts, and others, in the context of a particular class of virtual laboratory, the interactive screen experiment. Before embarking on detailed discussions, we must first define for ourselves what we mean by a virtual laboratory, understand what value it can bring, and importantly what it cannot (and indeed must not) do. In the most general terms, a virtual laboratory is a computer-based activity where students interact with an experimental apparatus or other activity via a computer interface. Typical examples which come to mind include a simulation of an experiment, whereby a student interacts with programmed-in behaviours, and a remote-controlled experiment where a student interacts with real apparatus via a computer link, yet the student is remote from that apparatus. We should distinguish the latter case from a computer-controlled experiment, where a student will directly control an apparatus in his or her vicinity via a computer interface. This gives us a definition of a virtual laboratory – A virtual laboratory is one where the student interacts with an experiment or activity which is intrinsically remote from the student or which has no immediate physical reality. The latter part of this definition may seem to imply that a virtual laboratory can have no physical reality behind it at all.

Virtual lab refers to a virtual teaching and learning environment aimed at developing students' laboratory skills. As one of the most important eLearning tools, they allow the student to

conduct various experiments without any constraints to place or time, in contrast to the constraints of real labs. Virtual labs incorporate various pedagogical techniques that help learners to better understand the theoretical information. These techniques include visual learning, active learning, recall-based learning, gamification & storytelling. They also offer students access to a realistic lab experience that will allow them to perform experiments and practice their skills in a risk-free and interactive learning environment. There are various categories of virtual laboratories. Virtual laboratories are not homogenous, and they largely differ in their purpose, composition, and application [6-8].

2. REMOTE EXPERIMENTS

In the introduction, we have discussed the definition of a virtual laboratory. It now falls to us to examine the concept of the interactive screen experiment in such a way as to distinguish it from other forms of virtual resource, and to understand the benefits interactive screen experiments can bring. In its broadest sense, we can define an interactive screen experiment as a highly interactive movie of an experiment, filmed as that experiment was being performed. By highly interactive, we do not simply mean the movie is capable of being moved forward or backward at different rates – this is trivial interactivity, and would provide minimal educational benefit. It is better perhaps to take a specific example. A screenshot of a simple interactive screen experiment illustrating the relationship between the extension of a spring and the tension in the spring.

3. EDUCATIONAL BENEFIT

Firstly, we will examine accessibility, which may manifest itself in two ways – either students may have reduced dexterity or other attributes which limit their ability to carry through a real experiment, or they may be physically unable (due either to mobility issues or geographic location) to attend a laboratory class. [5] The benefit of an interactive screen experiment in the second case is clear. The experiment is effectively “delivered” to the student in his or her own environment, and using equipment familiar to the student. The first case is less clear, until one realises that in producing the interactive screen experiment, one is at liberty to include non-standard means of controlling the virtual apparatus. In the context of geographical location and/or mobility issues, the use of an interactive screen experiment may provide a substitution for a real experiment. This may seem like using the idea to replace real laboratories, and indeed this is true to a limited extent. We should recognise though that for the student unable to attend a real laboratory for whatever valid reason, a well-designed interactive screen experiment can provide an appropriate substitute. Moving on, a common experience of students, especially those new to experimental science, is that of entering a laboratory and being faced with the intimidatingly unfamiliar. [2-4] Although we may try to prepare students with instruction manuals and preparatory work, these approaches cannot address the fundamental “newness” of the laboratory experience. Closely focused interactive screen experiments can yield significant benefit here through providing training and practice in the use of instrumentation, apparatus and techniques [9,10].

4. WORKING

This section describes the working of vlabs on Earned value management. This is complicated topic in software project management. This topic can be simplified with use of virtual labs. The main page contains the Aim of the experiment, Theory and Procedure. It also Pre-test, Simulation, Post-test, References and Generate PDF. The aim of the experiment is made clear

with the Aim page. Students can read the Aim and Theory behind the experiment in the Theory page.



Earned Value Management

Aim: Using Earned Value Management to Monitor Project Performance.

Broad Goal of the experiment:

- Students will be able to Focus on project performance measurement.
- Students will get a Realistic snapshot of project status.
- Students will have Opportunity to correct the issues.

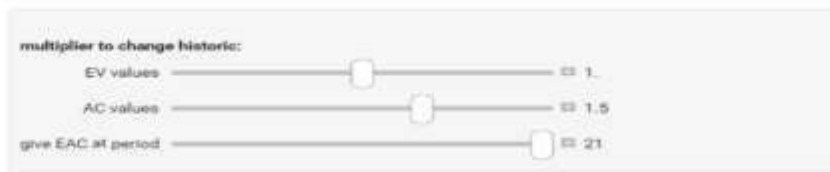
The procedure of the experiment is explained in the Procedure page.



Earned Value Management

Procedure:

1. There are two parts in this experiment.
2. In Part 1, Use the Simulator by clicking on the link: <https://demonstrations.wolfram.com/EarnedValueManagement/>
3. Part 2 Adjust the Earned Value (EV) and Actual Cost (AC) such that the Estimate at completion (EAC) is almost equal to Planned Value (PV). Estimate at completion (EAC); • CPI can be used to produce new cost estimate • Budget at completion (BAC) – current budget allocated to total costs of project • Estimate at completion (EAC) – updated estimate = BAC/CPI



Students are required to study and understand the Procedure page as they need to perform the experiments as per the procedure.

A pre-test is conducted based on the knowledge gained by the student and the score is recorded.

Aim
 Theory
 Procedure
 Pre-Test
 Simulation
 Post-Test
 References
 Generate PDF

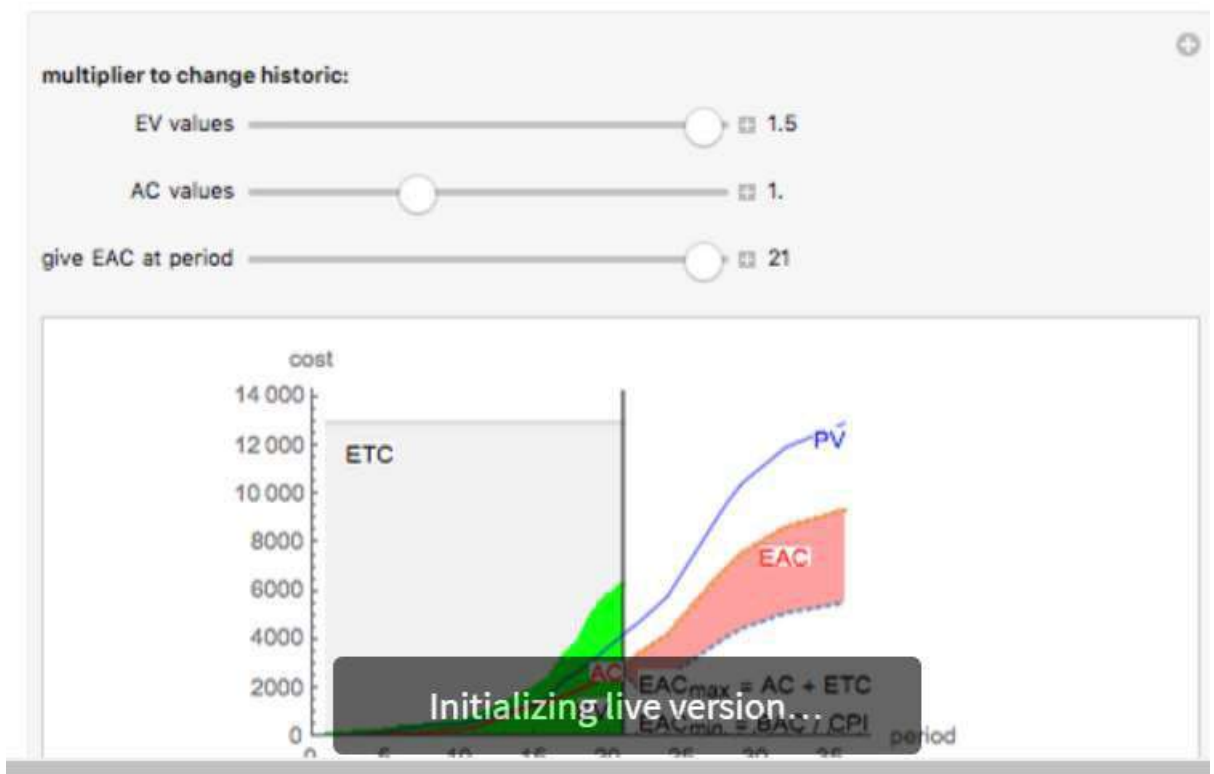
Earned Value Management

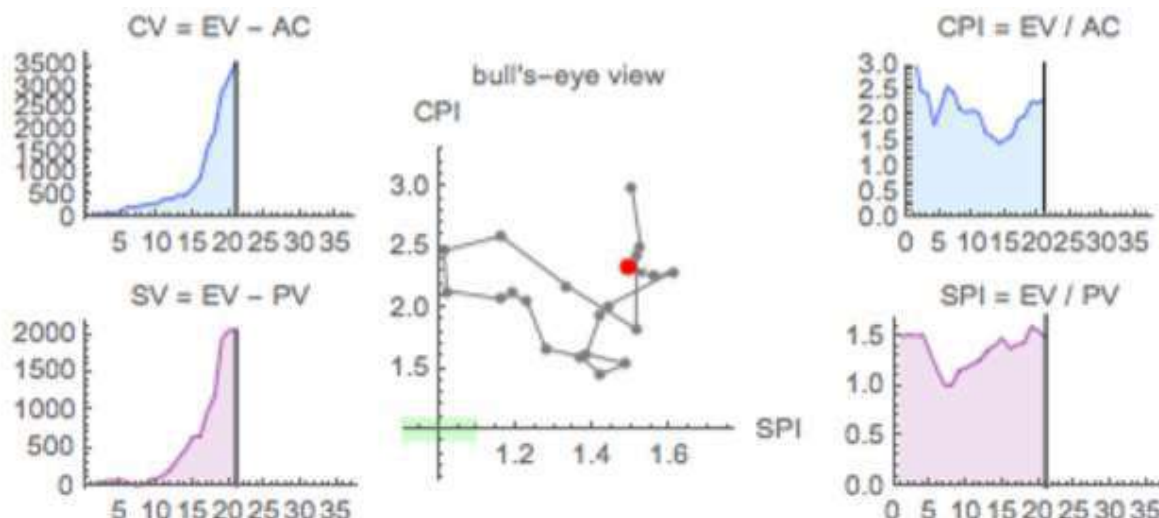
Solve these questions

- In Earned Value Management, PV means _____.
 - a: Profit Value
 - b: Projected Value
 - c: Processing value
 - d: Planned Value
- The budgeted cost for all activities in the project with the help of earned value method is defined by _____.
 - a: Actual cost
 - b: budget at completion
 - c: estimate at completion
 - d: planned value
- Earned value management introduces a method to answer how much has been _____.
 - a: left
 - b: assigned

Students can analyse the graph and adjust the values of Earned value (EV) and Actual cost (AC). They can find the Estimated budget at completion of the project.

Earned Value Management





The Post-test and references was provided for further reading and enhancing the knowledge on Earned value management.

Post-Test:

Task:

Schedule Performance Index (SPI) calculation: $SPI = EV/PV$ SPI measures progress achieved against progress planned. An SPI value <1.0 indicates less work was completed than was planned. $SPI >1.0$ indicates more work was completed than was planned. Cost Performance Index (CPI) calculation: $CPI = EV/AC$

CPI measures the value of work completed against the actual cost. A CPI value <1.0 indicates costs were higher than budgeted. $CPI >1.0$ indicates costs were less than budgeted.

For both SPI and CPI, >1 is good, and <1 is bad. Note that if you're in a hurry, for both cost and schedule, you can subtract instead of dividing to get the variance. Schedule variance = $EV-PV$, and cost variance = $EV-AC$. Subtracting can quickly be done in your head, and for these cases, >0 is good, and <0 is bad. But unlike SPI and CPI, variance cannot be effectively compared across projects or over time, where the budget for a project may have changed, because they're relative to the size of the project.

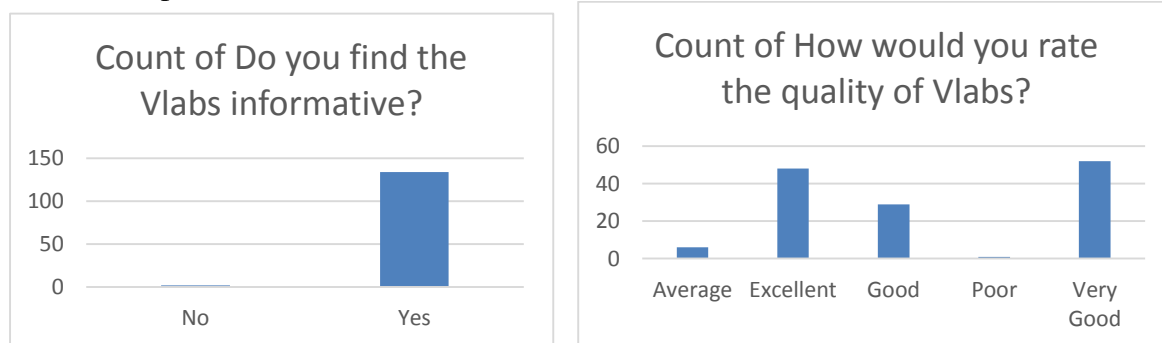
Estimated at Completion (EAC) calculation: $EAC = (Total Project Budget)/CPI$ EAC is a forecast of how much the total project will cost.

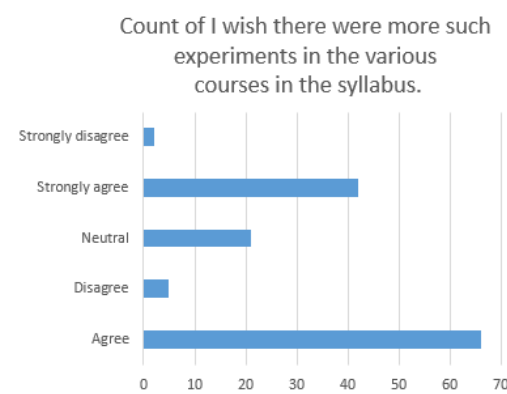
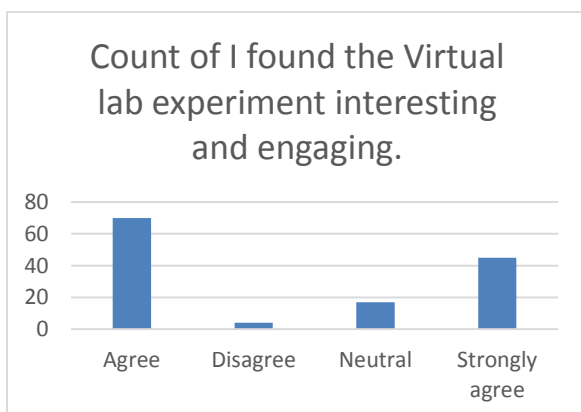
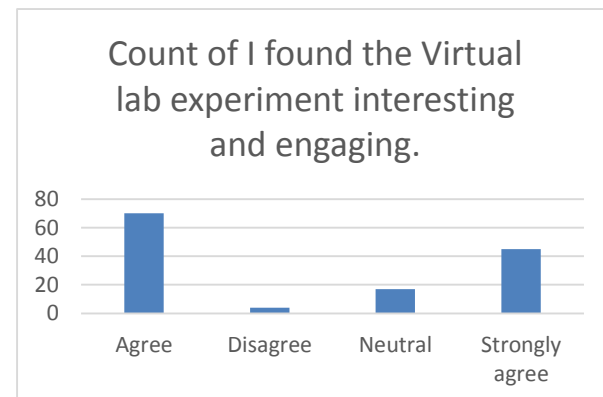
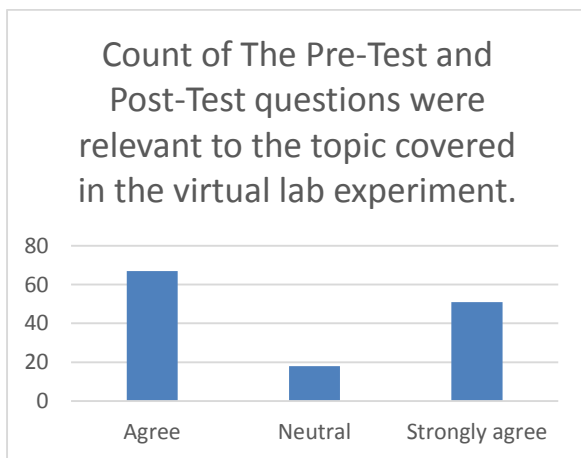
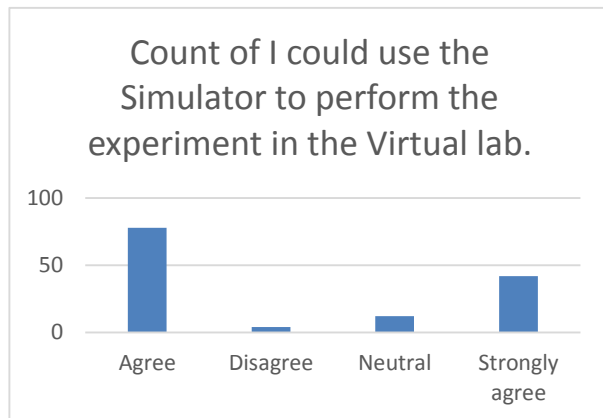
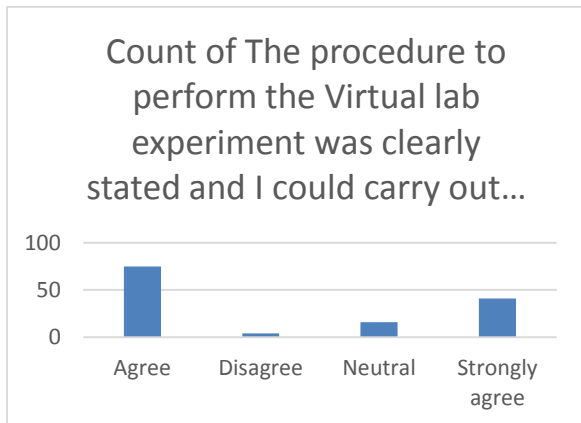
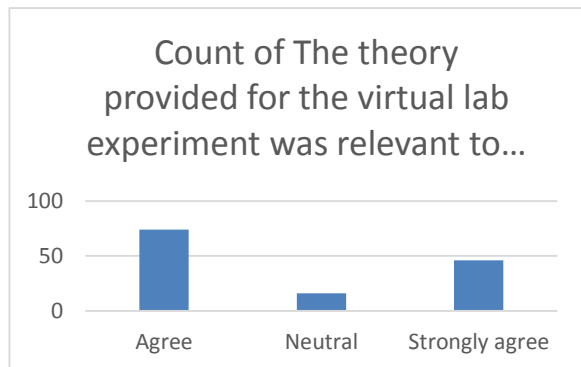
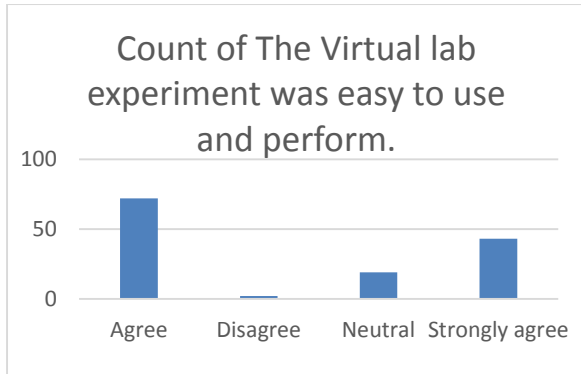
The tab to generate PDF was used to create a PDF of the entire experiment and mail it to faculty after the completion of the virtual experiment.

The feedback was collected from the students regarding the experience of using the virtual labs and learning outcome.

5. RESULTS AND FINDINGS

The feedback collected from the students was analysed to understand the students learning about the topic. It was found that:





Based on the feedback, we analysed that most of the students liked the Virtual labs designed and were able to perform the experiment at their leisure. They were able to understand the concept and perform the pre-test and post-test.

6. CONCLUSION AND FUTURE WORK

The results of the feedback revealed that students were able to enhance their knowledge, skills, intellectual abilities and attitudes. It also increased students' engagement and achievement. It could be concluded that more than half of students participating in the study agreed that practical work activities using virtual labs had positive impact on increasing students' knowledge, systematic process and skills, intellectual abilities, attitudes, and innovation. It is noticed that virtual can be designed for many topics, but is a time consuming process. Also for some topics virtual labs cannot be designed, so it needs to be conducted in the lab in offline mode.

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Digital Transformation 4.0

Track 3



A Review on Security And Privacy Issues in Big Data

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ABSTRACT

Big data deals with huge volume of data, which are growing exponentially with time. Now a days, Big Data related to the service of Internet companies grow rapidly. Since the datasets is rapidly growing it brings more problems. The increase in growing of data cause a problem of how to store and manage this huge heterogeneous datasets with limited use of hardware and software infrastructure. The data from different environment are stored in Hadoop framework. In Hadoop framework, there is no inbuilt security so the data is at big risk and to provide security for such data is important. This paper provides an overview of various Big Data analytics tools. The article reviewed the security and privacy related issues in various domains of Big Data like Healthcare, Social Media and Social Networking.

Keywords: *Big Data, Characteristics, Analytical Tools, Security and Privacy Issues.*

1. INTRODUCTION

Big Data is different from regular data. Big data deals with datasets that are too large or complex to be dealt with, by traditional data processing application software. Big data often includes data with sizes that exceeds the capacity of traditional software to process within an acceptable time and value. The term 'Big data' is in general use to describe the collection, processing, analysis and visualization associated with very large data sets [1]. The term Big Data describes a data environment in which scalable architectures support the requirements of analytical and other applications which process, with high velocity, high volume data which may have a variety of data formats and which may include high velocity data acquisition [2].

Characteristics of Big Data

Big Data is characterised into 3 v's: Volume, Velocity, and Variety

Table1: Characteristics of Big Data [3]

Factor	Identification	References
Volume	Volume is a huge amount of data that is created from different sources (transaction, unstructured streaming format text, images, audio, VoIP, video, TV and other media).	[4]
Velocity	Velocity refers to the rate of change of data or how often the data is created.	[5]

Variety	Data variety is the measure of the variety of data (text, images, video, and audio) one of the best challenges to the effective use of big Data is data variety for analytics, because of incompatible formats, lack of structures and inconsistencies.	[6]
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1.1 OVERVIEW ON BIG DATA ANALYTICAL TOOLS

Big data deal with huge amount of data and multiple data types like structured, semi structured and unstructured and traditional data types. These types of data will reach a huge capacity of storage which require a specific tools to process their data. There are several big data tools that are used for storing, analyzing and manipulating the different types of data. It includes NoSQL, MapReduce, R-language, Hadoop, HPC, Storm, Hbase, GridGain [7][8].

Table: 2 Comparisons of Big Data tools

BIG DATA TOOLS CHARACTERISTICS	HADOOP	STORM	HPCC	HABSE	GRID GAIN
DEVELOPER	Apache Software Foundation	Canonical Ltd	HPCC Systems, Lexis Nexis Risk Solutions	Hadoop Framework	Apache Ignite
PROGRAMMING LANGUAGE	JAVA	Clojure & JAVA	C++,ECL	Many Languages	JAVA Based
OPERATING SYSTEM	Cross Platform	Cross Platform	LINUX	Platform Independent	Windows, Linux, MAC OS
ORGANIZATIONS	Facebook, Ebay, Adobe, Twitter, Amazon, Yahoo	Backtype, Twitter	Google, Hbase Platform	Twitter, Webinar	Social Media

NOSQL: NoSQL generally referred to as ‘Not Only SQL’, is an open source database software. This tool is used for big data management. That will combine two parts, the traditional SQL techniques and alternative techniques that are used in querying and to retrieve the complex and unstructured datasets. The Apache Casentra NoSQL database tool is used by the social network like Facebook, LinkedIn and Twitter.

MAPREDUCE: MapReduce consists two parts, Map and Reduce. The Map is a procedure that filter and sort in the distributed cluster. Reduce is also a procedure that will summarizes the result in single mode. Apache Hadoop software is the most popular open source implementation of the MapReduce. Map function takes an input data and creates a set of intermediate subgroups. MapReduce library combine all intermediate subsets associated with the same intermediate key and send them to the Reduce function. Reduce function combine these subsets and key to create a set of smaller values.

HADOOP: Hadoop is an open-source software which is developed by the Apache Software Foundation is an Independent tool that is developed by a Java Framework. That can be used for processing the application and execute the terabytes of non-relational dataset using the several operating system such as Linux, BSD (Berkeley Software Distribution)(UNIX), Windows. Google and Yahoo online search engines uses the Hadoop framework [7][8].

HPCC (HIGH PERFORMANCE COMPUTING CLUSTER): HPCC is developed by LexisNexis Risk Solutions. That is used to improve the performance of system and parallel. HPCC is also used in batch based processing along with big data.

HBASE: Hbase is also a tool. It's main function is to map the data into datasets. Here, each of the datasets are slatted into n-tuples and to reduce the output that is mapped into another task, to get its original form that will grouped together. It's enhances the Hadoop functionality and their clusters.

R-LANGUAGE: R is programming language. It is an implementation of S-language. R-language is used to process the statistical data and graphics. R is a free software environment computing an open-source project [7].

STORM: Storm is a very fast processing tool. That can be used to process unbounded stream of data and million tuples per second per node. This tool is used in Real time systems.

GRID GAIN: Grid Gain is an open source and analysis tool which is developed by JAVA platform in real time systems. In distributed systems, that will be alternatively used as a Hadoop's Hbase [8]. These tools are appreciated in the area of business intelligence to improve the business and satisfies their goals. In the area of technologies and development, people make the awareness for analytical capability by using these tools.

1.2 SECURITY AND PRIVACY ISSUES IN BIG DATA

In present world, Data is increasing day by day. Each day a huge amount of data is coming from different commodity hardware so security and privacy become very important. Many organizations deal with big data every day. So there may be a chance for the types of attacks to occur. The greatest beneficiaries of Internet technology are people. Big Data has largest commercial value, but data analysis is very difficult and complex to maintain and it also threaten the privacy. To overcome the challenges and bring a specific solution we deal with security and privacy [9][10].

1.2.1 Security and Privacy Issue in Various Domains

As Big data is tremendously used in different data source, it gives rise in security and privacy issues. So, this section discuss about the security and privacy issue in various domains.

HEALTHCARE: As Big data is growing enormously in the area of healthcare. The security and privacy issues in healthcare is very necessary. The healthcare data centers like HIPPA (Health Insurance Portability and Accountability Act) which is certified but it does not guarantee the patient's record safety. It is mostly focused on security policy and procedure to implement them.

SOCIAL MEDIA: Social media is a wide range of media which we used to upload and download data for eg: video, audio, blog, slideshow, eBook etc. Social media is a place where people share their information with each other, which can be in the form of text, audio, video, image etc. Social media has given a huge rise to the amount of data and it is growing too fast. Since it is growing heavily and there is no end to the ongoing trend it is difficult to secure the personal data to handle the privacy.

SOCIAL NETWORK: Social Network creates a new era for communication. It connects people from anywhere, that as they are near or far. They can also share videos, images, documents etc. The social Networking site like FaceBook provide many options for privacy where the user can make their account, profile secure but these settings are concern only at the user end. The user don't know about the other end where it is handled and developed [10].

PRIVACY RISK: People have both convenience and inconvenience while using the Big data. If the Big data used by the people is not protective then it will cause threats to the security and privacy risk. The traditional issue of privacy is not only the security problem of people data, but also based on the research and analysis of people. Many countries are still in lack of protection so the user information can be lost or there may be information leakage.

THREATS OF DATA SECURITY: In the Big data era, due to the enormous growth of internet and network environment the security protection of mobile data is more important. Now a day's smart mobile place a big role in people's day to day life. It also store more personal information

of user. At present, people face many security problems in big data. Not only the big data, their intelligent terminal also cause security problem and become worrying.

2. REVIEW OF LITERATURE

Priyanshu Jadon & Durgesh Kumar Mishra (2019) discussed overall Security issues and gave a detailed solution on how to protect the confidential data. Various Security Issues and the solutions to these problems was elaborated. Security Issues like weakness of Hadoop, insecure MapReduce, key-generation and key-management issues were addressed. Solutions to these Security issues like Trust mechanism, random encryption algorithm and Quantum cryptography were discussed. Issues related to privacy of Big Data was also provided. Various Encryption Techniques like Attribute Based Encryption, Identity Based Encryption and Homomorphic Based Encryption are ensured to protect the privacy of the user. Many privacy preserving techniques like Personal Information and Quasi Identifier was highlighted to handle the privacy over Big Data. Finally an architecture was proposed that helps in achieving the privacy while performing Big Data analytics.

Md. Tabrez Quazim and Mohammad Meraj (2017) reviewed shortly about the Big Data security and privacy. Concept of Big Data like volume, velocity, variety and huge numbers of data sources were discussed. Security and privacy issues of Big Data was focused. Also overview of current challenges and Future Research perspectives of security and privacy of Big Data was highlighted. In privacy, social network mining, Big data Analytics, Big graph analysis and mining were preserved. Finally, the security issues outsourced database and security aspects during Big Data exchange and Querying Cloud-Enabled DBMS were summarized.

Shuyu Li and Jerry Gao (2016) reviewed the critical issues on Big Data and overview of state-of-the-art research was provided. Recent advances in data encryption, privacy preservation and trust management was highlighted. A detailed explanation of data encryption including searchable encryption, order-preserving encryption, structured encryption and homomorphic encryption were analyzed. In the section of privacy preservation three representative mechanism including access control, auditing and statistical privacy were reviewed. In the section of trust management several approaches like trust and reputation models were investigated. Big Data platforms like Apache Hadoop was discussed. Several distinct topics within security and privacy of Big Data was reviewed.

Boel Nelson and Tomas Olovsson (2016) performed a systematic literature review. The complete review provided the current state of privacy and security in big data. An overall context of big data was described. Also, an overview of security and privacy of Big Data were categorized including both quantitative and qualitative way. Confidentiality, Data integrity, privacy, Data analysis, visualization, Data format and stream processing were explored. The relationship between the categories was visualized. Finally, the security and privacy for Big Data was discussed and found out from the reviewed paper.

Dongpo Zhang (2013) security and privacy issues of Big Data were analyzed. Sources and characteristics of big data was explained. Here, the categories of Big Data is divided into three such as Privacy risks, Lack of Big data privacy protection technology, threats to data security and were discussed in detailed manner under Big Data security challenges. Finally, fully supervised data information in social networks, Improvement of privacy protection legal mechanism, Establishment of privacy protection agency and Improvement of people's awareness and quality of data in the Big data security and privacy protection were proposed.

Jose Moura & Carlos Serrao (2015) explored the most important aspects in how computing infrastructures is configured and intelligently managed for application security in big Data. Also discussed the most important challenges to Information security and privacy. 5V's of Big Data characteristics were presented that affect information security. Cloud Service Alliances has categorized the different security and privacy challenge into four different aspects of Big Data ecosystem. Various solutions of Big Data security and privacy challenges were also addressed. Homomorphic encryption was described in detail. Two different use cases were presented. First case described about solving security and privacy issues on social network. A case study about an Intelligent Intrusion Detection/Prevention system (IDS/IPS) belonging to a Software Defined Network (SDN) was made in detail. Second case exposed that SDN is an emergent management solution to implement security in Big Data Systems.

Nitin Kr. Agrawal and Dr Aprna Tripathi (2015) reviewed about the security and privacy issues in various domain of Big Data. The author discussed about the data dependence in Big Data. Big internet companies such as Google, Facebook, Amazon, ebay etc are depend on Big Data because Big Data was bigger than these big companies. This review also highlighted about the security and privacy issues in Healthcare. As the healthcare industry was growing, the security and privacy issues must be concerned. And the paper also spoken about the future Big Data in healthcare. The security and privacy issues in social media and social network was also discussed. Widely used communication network (i.e.) Internet of Things (IOT) was briefly defined.

Khairulliza Ahmad Salleh and Lech Janczewski (2016) explored the review on security and privacy issues of Big Data. Here, the author highlighted about the motivation, scope and objectives of Big Data. The scholarly literature on Big Data was written in different perspectives. The methodology of Big Data was explained. Issues was classified into three context like technological, organizational and environment context. Finally the major limitation of Big Data was identified. The aim of future research activities was also outlined.

Gayatri Kapil, Alka Agrawal and R.A Khan (2018) discussed the use and characteristics of extensive informations. Some potential methods and techniques was also elaborated to ensure security and privacy in Big Data. This paper also explained the dimensions of Big Data. The technology and fundamental tools for Big Data was highlighted. The fundamental tools such as data cleaning, data mining, data analysis, data collections, data integration and data visualization were focused. The process of Hadoop framework was also explored. The challenges of Big Data like processing challenges, data challenges, human resources and man power challenges, technical challenges, security and privacy challenges were described. Finally Bigdata security approaches was summarized.

T Gundu (2019) discussed Big Data security and Privacy risks. Characteristics of Big data like volume, velocity and variety was studied. Design and validation of social cognition model for Big data security and Privacy was reported. The effectiveness of the model in bridging the knowledge and action gap was evaluated by review process. Big Data categorization based on sources was presented. Social cognitive theory was selected and examined to understand human behavior. Theoretical foundation of the study was made. The proposed model was discussed and empirical trial was reported. Using this model and research, organizations will be able to refine their security and privacy interventions to maximize effectiveness.

3. CONCLUSION

In present world, Data is increasing day by day. Each day a huge amount of data is coming from different commodity hardware so security and privacy become very important. Many organizations deal with big data every day. So there may be a chance for the types of attacks

to occur. Big Data has largest commercial value, but data analysis is very difficult and complex to maintain and it also threaten the privacy. To overcome the challenges and bring a specific solution we deal with security and privacy. This paper reviewed various security and privacy related issues in Big Data. Finally it concluded with the privacy protection. Privacy is more important, because as data grows rapidly, many organization faces security problems. So, a proper security and privacy policies to protect the data from different kinds of attack is necessary.

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A Study of Cyber Security Challenges And Its Trends

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ABSTRACT

Cyber security plays a very important role in securing the knowledge and transmissions. It's become one in every of the largest challenges within the current time. Cyber security provides awareness so as to safeguard from on-line frauds and cyber crimes. Whenever we predict concerning the cyber security, we predict of "cyber-crime" that is increasing day by day. Varied governments and corporations are taking necessary actions to forestall cyber-crime. It protects security to sensitive information, networks, and software package applications from cyber attacks. This paper focuses on the challenges long-faced within the space of cyber security and also the rising threats in cyber security.

Keywords: *Cyber Security, Cyber Crime, Security Techniques, Challenges and Trends.*

1. INTRODUCTION

Our life is becoming more digitalized with the rapid technological developments. Be it business, education, shopping or banking transactions, almost everything is on the cyber space today. The attention being given to cyber security is often focused on trying to define the problem and assess the true threat level. Cyber security plays an important role in the development of information technology as well as Internet services. Cyber security protects all forms of data from threats of theft or damage – it can include sensitive information, personally identifiable information (PII), protected health information (PHI), intellectual property, and other large information systems. The scope of Cyber Security extends not only to the security of IT systems within the enterprise, but also to the broader digital networks upon which they rely including cyber space itself and critical infrastructures [4].

CYBER SECURITY

Cyber security is a subset of computer security that deals with the internet. It refers to the safeguarding of computer systems and networks against the theft or loss of their hardware, software, or electronic data, as well as the disruption or misdirection of the services they provide. Cyber security is made up of numerous layers of protection that are spread over computers, networks, applications, and data to keep them safe.

CYBER CRIME

Cyber crime is a term for any illegal activity that uses a computer as its primary means of commission and theft. Usually in common man's language cyber crime may be defined as crime committed using a computer and the internet to steal a person's identity[5]. They have some categories of cyber crime such as cyber crime against individuals, property, organization and society.

1.1 TYPES OF CYBER SECURITY

Some common types of cyber security that completely based on protecting from different types of viruses, worms and Trojans.

NETWORK SECURITY: Network security is a common type of computer security it deals with secure the network and it from privately owned computer networks to the internet itself against different types of viruses and also have some other forms of threats to peep working of computer network smooth.

DATA SECURITY: Data security defined as an act of protecting the data present on computer from different types of threat through software or hardware solution. This data can reside in one or more computer storage devices.

SYSTEM SECURITY: System security concerns about malicious programs can disrupt and sometimes destroy the computer system. This program can be viruses such as Trojan horse, rabbits and so on. Ransomware is one of the type of malware. Malware that prevents or limits from accessing their system.

1.2 CYBER SECURITY TECHNIQUES

- **ENCRYPTION:** Encryption makes data unreadable without the use of a special key to decrypt it. To break an encryption, one would have to solve difficult mathematical problems like factoring huge primes, which would take an enormous amount of processing power and time.
- **DATA AUTHENTICATION:** The document must receive always be authenticated before downloading it should be checked and a reliable source and that they are not altered. This document is done by anti-virus software present in devices. It is the good anti-virus software and it protects the device from virus [5].
- **DIGITAL SIGNATURES:** Digital signatures can be erected out of the same mathematical algorithms that are employed in asymmetric encryption. A user is free to test that he possesses a private key by getting some information encoded with it. Anyone can get the same decrypted by having the public key that will verify the person's credentials.
- **FIREWALLS:** A firewall is a piece of software or hardware that prevents hackers, viruses, and worms from infiltrating your computer via the internet. If a firewall is installed, all messages are sent to the internet. When it comes to malware detection, the firewall is crucial.
- **ANTI-VIRUS SOFTWARE:** Anti-virus software is one of the computer program that will detect, prevent and take action for many other software. Anti-virus software is mostly included an auto-update feature it enables the program to download profile for new virus [5].

2. CYBER SECURITY CHALLENGES

Cyber Security is becoming a severe issue for individuals, enterprises, and governments alike. In a world where everything is on the internet, from cute kitten videos and our travel diaries to our credit card information, ensuring that our data remains safe is one of the biggest challenges of Cyber Security.

INCREASING RATE OF MOBILE MALWARE: Mobile malware is malicious software that is designed to specifically target mobile operating systems and disrupt their functionality. The most common cause is the insecure use of URLs over Wi-Fi or other internet networks. According to the 2021 Mobile Protection Report, 97 percent of enterprises face threats related to mobile malware from various vendors claiming to deliver next-level security to existing cellular networks.

IOT ATTACKS: IoT devices are computational, digital, and mechanical devices that can send data over the internet on their own. As the popularity of IoT devices grows at an unprecedented rate, so are the cyber security challenges. The compromise of sensitive user data can occur

when IoT devices are attacked. One of the most difficult tasks in Cyber Security is protecting IoT devices, as obtaining access to these devices can lead to further harmful assaults.

REMOTE WORK SECURITY: It can be difficult to keep track of today's increasingly dispersed workforce. Many of the tools that remote employees rely on have new flaws. Amazon Cloud Drive, for example, does not provide at-rest encryption, and Zoom is known for its security problems. Managing people on multiple networks with potentially vulnerable devices is rarely simple.

PHISHING ATTACKS: Phishing is a type of social engineering assault that is frequently used to obtain sensitive information from users, such as login credentials and credit card details. Unlike ransomware attacks, the hacker does not block confidential user data after obtaining access to it. Instead, they exploit it for their own gain, such as internet shopping and money laundering. Phishing attacks are common among hackers because they can use the victim's data until the user notices. Phishing assaults are still a huge problem in India's cyber security, as the population isn't used to managing sensitive information.

MACHINE LEARNING AND AI ATTACKS: While Machine Learning and Artificial Intelligence technologies have proven to be extremely advantageous for significant progress in a variety of fields, they also have flaws. Unlawful individuals can use these technologies to carry out cyber-attacks and represent a threat to enterprises. These algorithms can be used to find high-value targets in a vast dataset. Attacks against machine learning and artificial intelligence (AI) are another major worry in India.

3. TRENDS CHANGING CYBER SECURITY:

INTERNET OF THINGS: As the Internet of Things grows, so does the potential for cyber crime. The Internet of Things (IoT) refers to physical items that connect to the internet and share data, but are not computers, phones, or servers.

RISE OF AUTOMATIVE HACKING: The development of vehicle hacking will be the first cyber security trend in 2021. Modern vehicles are equipped with automated software that allows for smooth connectivity for drivers in areas such as cruise control, engine timing, door locks, air bags, and advanced driver aid systems.

ATTACKS ON CLOUD SERVICES: Many businesses have turned to cloud-based computing services in recent years, which allow customers to access software programmes, data storage, and other services over the internet rather than relying on physical infrastructure. Many advantages come with using this technology, including lower operating costs and better efficiency.

RANSOMEWARE ATTACKS: Targeted ransomware is another important cyber security trend that we can't seem to ignore in 2020. Industries, particularly in industrialized countries, rely largely on specialized software to carry out their daily tasks. The Wanna Cry ransomware attack on NHS hospitals in England and Scotland, for example, corrupted almost 70,000 medical devices. Despite the fact that ransomware often threatens to reveal the victim's data until a ransom is paid, it can also harm huge organizations or countries.

INCREASED MOBILE SECURITY THREATS: Companies have offered corporate cell phones or allowed the use of personal devices under Bring Your Own Device (BYOD) rules, making the usage of mobile devices for professional purposes more prevalent in recent years. Employees worked from whatever devices were accessible during the COVID-19 epidemic, which resulted in a substantial surge in mobile device usage. As a result, many firms' IT infrastructures now include mobile devices as a mission-critical component.

4. REVIEW OF LITERATURE

Dr. Prof. Rajasekharaiah K. M, Chhaya Dule and Sudarshan E (2020) discussed on the new technologies for cyber security, ethics and developments that impact cyber security. Cyber-security techniques including firewall and malware scanners have been mentioned. He also discussed the Recent Survey Issues on Cyber Security and mentioned that Malware is the main option for malicious arms to violate the cyber protection efforts of cyberspace. Preventive measures to avoid Cyber-crimes are listed. He concluded that the cyber-crime has significant consequences for national and economic security.

Ravi Sharma (2021) discussed the Latest Trends on Cyber Security Issues and showed the graph of cyber-crimes in India. He listed the Recent Survey Issues on cyber security such as Cloud Computing and Social Media Networking. Specific Cyber Security Technologies including authentication, malware scanners, firewalls and cryptography were discussed. He concluded that there is no single answer for success, but by working across public and private sector partnerships and by advancing security measures particularly with regard to mission-critical systems, processes and applications that are connected into cyberspace, businesses will be able to work towards a future environment.

Shweta Ghate and Pragyesh Kumar Agarwal (2017) defined the cyber security in terms of three elements – Confidentiality, Integrity and Availability. They discussed several types of computer securities that are completely based on protecting from different types of viruses, worms and Trojans. Types of Cyber Securities and Cyber-attacks were described. They explored important cyber law provisions in India and discussed the threats, vulnerabilities and impacts of Cyber Security. They concluded that concrete measures must be found in order to track electronics evidence and preserve them so that systems are better protected from cyber intrusions. . Cyber security education, R&D and training should be an integral part of the national cyber security strategy

Dr. Sandeep Kumar and Prof. Arjun Singh (2019) discussed the cyber security challenges and its emerging trends on cloud security issues and techniques. Trends changing cyber-security includes web servers, cloud computing and its services, mobile networks and IPV6-a new internet protocols has been described. They mentioned that Social media plays a huge role in cyber security and will contribute a lot to personal cyber threats under sub-heading Role of social-media in cyber security. Various Cyber security techniques such as password security, authentication data, firewalls, anti-virus software were discussed. Cyber ethics rules to use the internet in a proper safe way has been listed. He concluded that the There is no perfect solution for cyber crimes but we should try our level best to minimize them in order to have a safe and secure future in cyber space.

G. Nikhita Reddy and G. J. Ugander Reddy (2014) discussed the cyber security challenges and its emerging trends on latest technologies .They listed the cyber crime, cyber security, trends changing cyber security, role of social media in cyber security, cyber security techniques and cyber ethics. Here mentioned some of the trends changing cyber security it includes web servers, cloud computing and its services, APT's and targeted attacks, mobile networks, IPV6-new internet protocol and encryption of the code .Cyber security techniques includes access control and password security, authentication of data, malware scanners, firewalls and anti-virus software were discussed. They had also mentioned the diagram for techniques on cyber security. They concluded that there is no perfect solution on cyber crimes but we should try our level best to minimize them in order to have a safe and secure future in cyber space.

Atul M. Tongue, Suraj S. Kasture and Surbhi R. Chaudhari (2013) defined the cyber security challenges for society. They listed the activity of protecting information and information systems such as networks, computers, databases, data centres, and applications with appropriate procedural and technological security measures has been described.

Firewalls, antivirus software and other technological solutions for safeguarding personal data and computer networks are essential but not sufficient to ensure security. They concluded that cyber security emerging trends while adopting new technologies and also describes the challenges due to lack of coordination between security agencies.

Adel S. Elmaghraby and Michael M. Losavio (2014) discussed about cyber security challenges in smart cities includes safe, security and privacy. They defined the methodology term it has several paradigms and categorical structures and also be applied in analyzing the benefits and detriments of this data environment. They included that the data sources feed data collections feed data analytics knowledge, the production loci of data in the smart city, source nodes of activities and services producing data and the recursive cycle of data in the smart city information generated. They concluded that the smart city offers us much but we must not let it take that which makes us who we are. Difficult and concerned debate on these issues is needed.

Azeez Nureni Ayofe and Barry Irwin (2010) defined the cyber security challenges and the way forward. They study the methodology of cyber crime and security. They enumerated the concept of cyber crime, the reason behind the involvement of such crimes against persons, property and government. Cyber crime include the unauthorized access of hosts, spamming, computer fraud scams. Dental of service attacks, Viruses, Trojans and worms. Eradicate cyber-crime is international cooperation and law, this goes for greed motivated and cyber terrorised. Cyber-crime involved three categories teenagers to get spotlight of media, career criminals who are greed motivated to make money and cyber terrorists are involved. Criminal mail the need to detect such mail by putting security measures in place. They also studied phishing and mentioned identify theft which is a great crime. They concluded that cyber-crime is still work progress, it becomes necessary for individuals and corporate bodies to fashion out ways of providing security for their systems and data.

Y.Poornima and Y.Naveena and V. Harsha Vardhana (2015) discussed the cyber security issues and challenges in India. They enumerated the concept of cyber security processes and controls to protect systems, networks, programs, devices and data from cyber-attacks. The risk of cyber security includes three factors threats, vulnerabilities and impacts. They listed the government role such as the Indian cyber space, National security policy 2013. Vulnerabilities and Existing counter cyber security initiatives. Here mentioned some long-term challenges include Design, Incentives, Consensus and environment. Federal role in cyber security involves both securing federal systems and assisting in protected nonfederal systems. They had also mentioned the diagram for federal agency cyber security role. They concluded that more dependent on the Internet for daily life activity, we also become more vulnerable any disruptions caused in and through cyberspace.

Abdullahi Arabo (2015) defined the future of cyber security challenges within the connected home ecosystem. He enumerated the concept of security threats on smart devices the problem of cyber security extends beyond computers it threat to portable devices. Threat assessments including lost or stolen devices, open Wi-Fi and public, network, malware and viruses, corporate policy, theft/abuse of services and unauthorized cyber-physical control has been described. The author concluded that cyber security experts will see increasing threat to the home infrastructures as the key target and challenges for them to address as cybercriminals will find such systems easy to use and infiltrate.

5. CONCLUSION

One of the most important parts of the rapidly developing digital work is cyber security. Organizations are being challenged not only with how they safeguard their infrastructure, but also with how they require new platforms and intelligence to do so, thanks to the latest and most harmful technology, as well as new cyber tools and threats that emerge every day. There

is a need for international cooperation of nations to crack down on cyber crime and ensure the development of the internet. Because cyber crime is not limited to states of borders, it necessitates a global collaboration of nations to work together to reduce the ever-increasing threats and risks to a manageable level.

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An Iot Based Automotive Car Using Raspberry Pi

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ABSTRACT

The paper presents a low cost and flexible automotive car model using a raspberry pi system on chip. With connectivity of the various devices for performing working of the car automatically. This proposed system provide us with auto modification of the model of the car. It don't require any server PC with respect to similar system and offer flexibility to control driving of the car with respect to environment and its functionalities .To demonstrate the feasibility and effectiveness of the system devices like light detecting sensors, range sensor, ultrasonic sensor ,H-bridge and various integrated devices are used.

Keywords: *Raspberry Pi, sensors, detectors, Python.*

1. INTRODUCTION

The Internet of the things can be described as connecting everyday objects like smartphones, Internet TVs , sensors and actuators to the internet where as devices are intelligently linked together communicating people and between things themselves

AUTOMOTIVE CAR can be described as introduction of Technology within the car to provide convenience and comfort security and Energy Efficiency to its passengers the AUTOMOTIVE CAR is an IOT based application this paper can be it has multiple GPIO ports that can be programmed and they can give the user control over breaks, path detection, turning. It provides user friendly interface on host side so devices can be easily setup and monitored.

The reason to develop the system is to save time and manpower along with safety and convenience Automotive car refers to the application of computer and information technology for control over automatic driving of the car and easily reducing the power consumption or Power wastage associated with manual system the application varies from simple remote control of car best networks involving the Intelligence and automation

2. OBJECTIVES

To reduce to manual work of the driver: Helps in reducing the manual work of the driver as the car gives efficiently on its own the car efficiently acts to the problems incoming from the environment making it more alert to the accident prone areas

Helps to follow lane discipline on the roads: due to range sensors it helps to follow the lane of the roads avoiding the accidents

Ensures safety of the passengers by avoiding accidents: ultrasonic sensors helps in obstacle detection of the car in the Pathways making it more safe it also helps in auto turning on the critical nodes and ensuring the safety of the passengers

Helps to maintain signal discipline: the model has light detecting sensors it helps to follow the traffic rules and avoids the violation of the laws creating a secure environment for the driver and passengers to complete their journey safely

Reduces the pollution: as the car model works on the electricity no burning of fossil fuel takes place due to which our environment remains healthy and no pollution is caused due to release of toxic gases

2.1 PURPOSE

with Automotive car you can drive your car safely and smartly using IoT you can get complete remote access of your car allowing you to work more efficiently. Automotive car allows you to activate a group of devices with a single touch it not only gives you peace of mind but also helps you to drive safely and monitor your driving efficiently. The form of Automotive car focuses on making it possible for the driver and the passenger to be safe and comfortable on their journey.

- It helps drivers and passengers to complete their journey more comfortably and efficiently
- It focuses on smooth driving and ensures the safety of the people
- It helps to follow the traffic signals and avoids violation of the rules

2.2 SCOPE

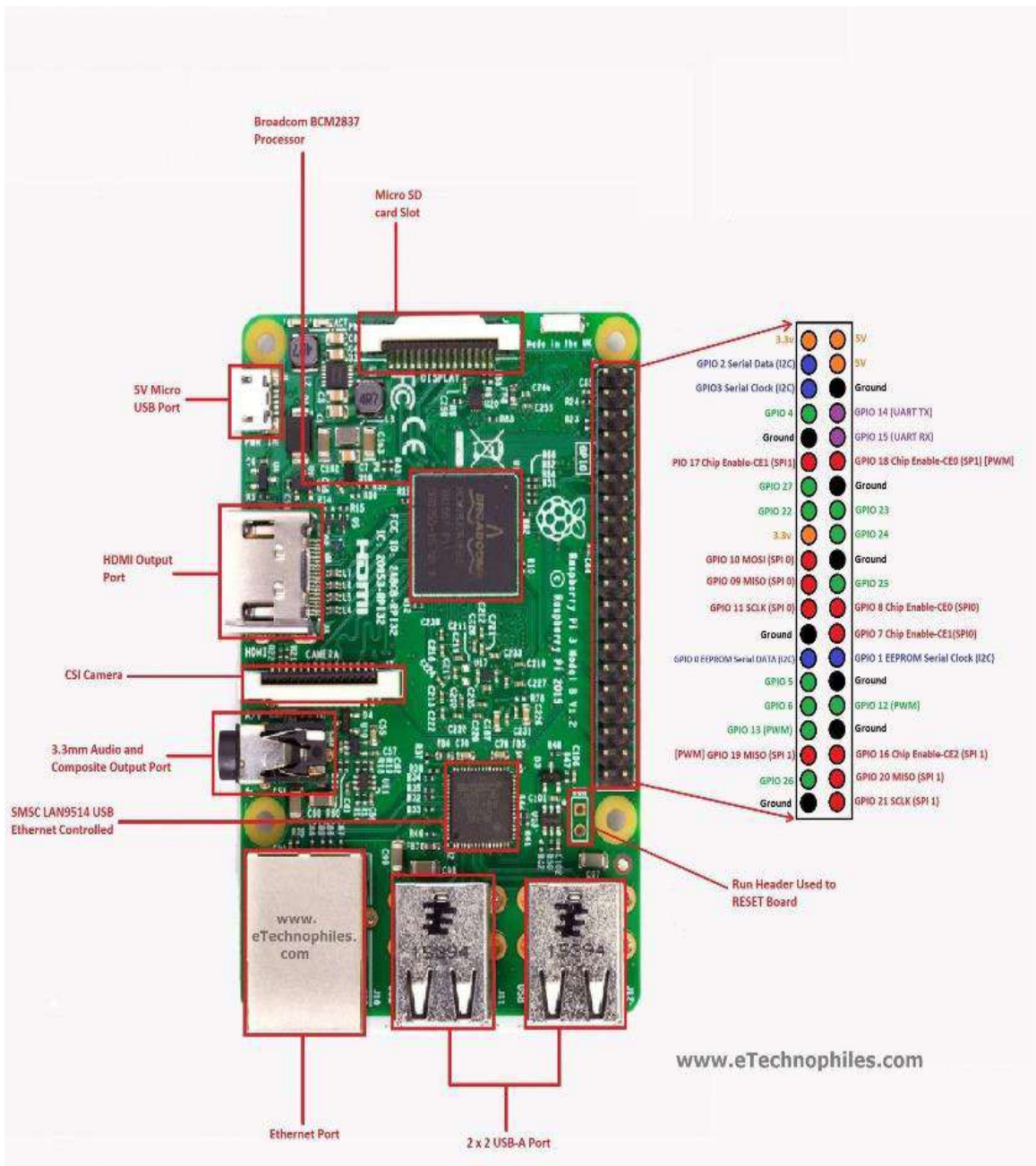
project aims at designing a model for controlling the car in an efficient manner that can ensure the safety of the passenger and helps in following the traffic rules and avoid the accidents which take place due to violation of laws

3.1 PROBLEM DEFINITION

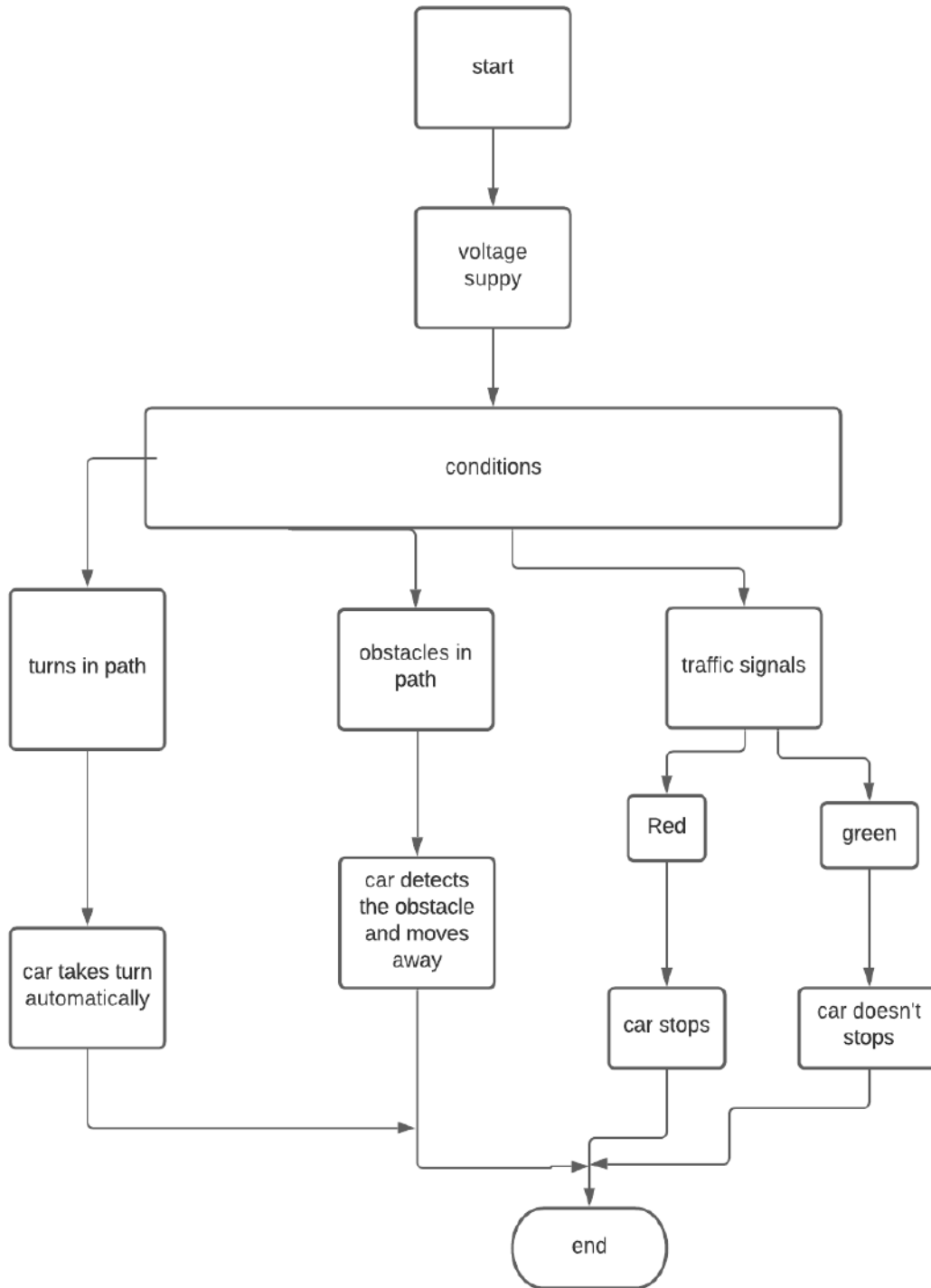
Some times it becomes hard for us to drive the car and reach the destination especially when the driver is exhausted in the circumstances we are advised to issue a break in the journey to avoid accidents and ensure the safety. As every coin has two sides like that every topic has its pro's and con's same way there are drawbacks of the automotive car also.

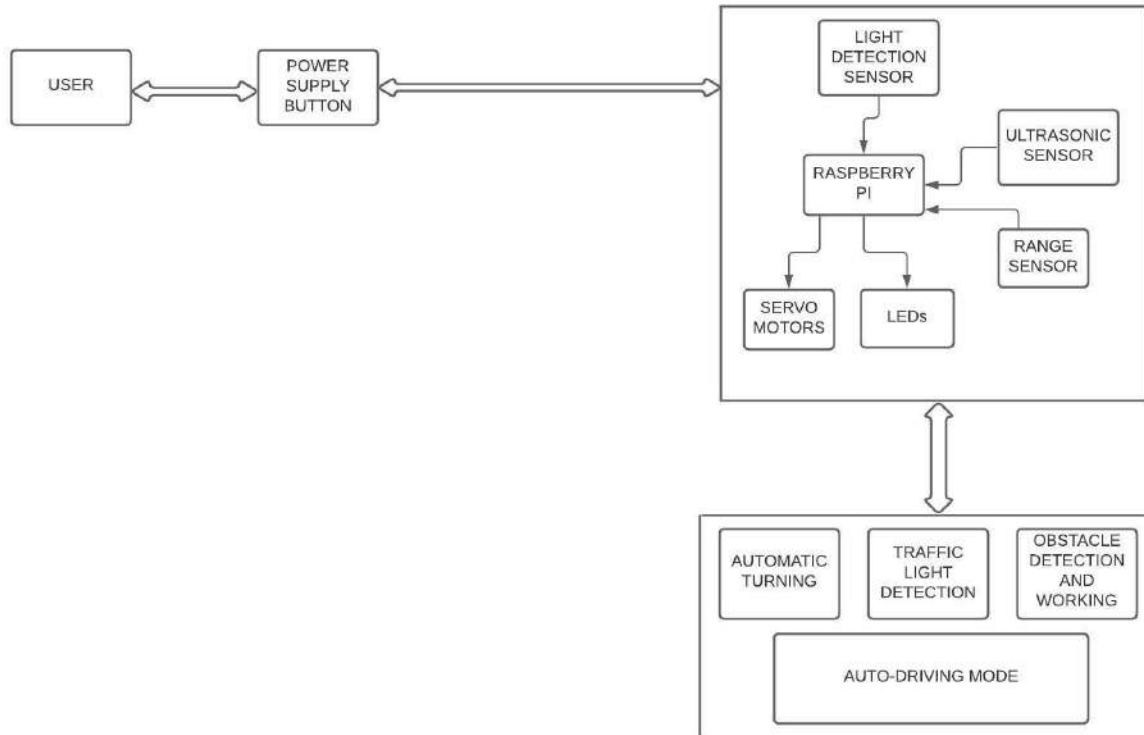
Sometimes person unknown to the modification of this car may not be able to gain the utmost benefit from this model. Sudden obstacle in path may make it very difficult to react on time as it appears suddenly and makes difficult to manage the obstacle in path. Due to more complexity of the models it becomes difficult for the developer to manage the errors and avoiding the minor errors. The condition of the roads should be suitable for smooth working of the car. As it is an time critical project the wrong input from the driver can create a problem in execution of the work smoothly

CIRCUIT DIAGRAM



FLOWCHART





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Digital Voting System Using Blockchain

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ABSTRACT

Since the late 1980s, electronic voting, often known as e-voting, has been used in many forms with key advantages over paper-based systems such as enhanced efficiency and reduced errors. However, there remain challenges to understand wide spread adoption of such systems especially with regard to improving their resilience against potential faults. Blockchain could be a game changing technology of current era and promises to reinforce the overall resilience of e-voting systems. Building a secure electronic voting system that provides the fairness and privacy of current voting schemes, while providing the transparency and adaptableness offered by electronic systems has been a challenge for an extended time. In this paper, we evaluate an application of blockchain as a service to implement digital electronic voting systems. Especially, we evaluate the potential of distributed ledger technologies through the outline of the tactic of an election, and thus the implementation of a blockchain based application, which improves the security and reduces the cost of hosting a nationwide election.

1. INTRODUCTION

Elections are fundamental pillar of a democratic system enabling the overall public to give their views within the sort of a vote. They mostly play an important role within the way forward for citizens life. Therefore, it's much importance for each single person involved in these elections. no matter the organization, elections need to be trustworthy in its nature. they need to make sure people's privacy and vote's security. Additionally, the authority which is liable for counting votes shouldn't spend an excessive amount of time on counting votes since waiting long period of your time for results increases concerns about manipulation of results. However, thanks to the various reasons counting on the areas that elections are made, trust has been a controversial issue for every election. To dissipate problems of both conventional and e-voting elections, e-voting are often improved using Blockchain mechanism. Blockchain has impressive features to beat troubles of voter's security, privacy and data integrity of votes. Blockchain is one among the emerging technologies with strong cryptographic foundations enabling applications to leverage these abilities to realize resilient security solutions. Blockchain is a distributed, immutable, public ledger. This technology has three main features:

(I) Immutability: Any proposed "new block" to the ledger must relate to the prior ledger version. This generates an immutable chain, which is how the blockchain got its name, and precludes tampering with prior entries integrity.

(ii) Verifiability: The ledger is dispersed across several sites and is decentralised, replicated, and replicated. As all nodes maintain the consensus version of the ledger, this enables high availability (by eliminating one point of failure) and third-party verifiability.

(iii) Distributed Consensus: A distributed consensus protocol to work out who can append subsequent new transaction to the ledger. A majority of the network nodes must reach a

consensus before any new proposed block of entries becomes a permanent a part of the ledger. These features are partially achieved through advanced cryptography, providing a security level greater than any previously known record-keeping system. Blockchain technology is therefore considered by many, including us, to possess a considerable potential as a tool for implementing a replacement modern voting process.

Blockchain as a Service

The blockchain is an append-only data structure, where data is stored during a distributed ledger that can't be tampered with or deleted. This makes the ledger immutable. The blocks are chained in such how that every block features a hash that's a function of the previous block, and thus by induction the entire prior chain, thereby providing assurance of immutability. There are two differing types of blockchains, with different levels of restrictions supported who can read and write blocks. A public blockchain is readable and writeable for everybody within the world. this sort is popular for cryptocurrencies. a personal blockchain sets restrictions on who can read or interact with the blockchain. Private blockchains also are referred to as being permissioned, where access is often granted to specific nodes which will interact with the blockchain. additionally, to cryptocurrency, blockchain provides a platform for building distributed and immutable applications or smart contracts. Smart contracts are programmable contracts that execute themselves when certain circumstances are met. Smart contracts are utilised as a legally enforceable agreement between parties, similar to traditional written contracts. Smart contracts automate transactions and permit parties to succeed in agreements directly and automatically, without the necessity for a middleman. Key benefits of smart contracts compared to standard written contracts are cost saving, enhanced efficiency and risk reduction. Smart contracts redefine trust, as contracts are visible to all or any the users of the blockchain and may, therefore, be easily verified. during this work, we define our e-voting system supported smart contracts.

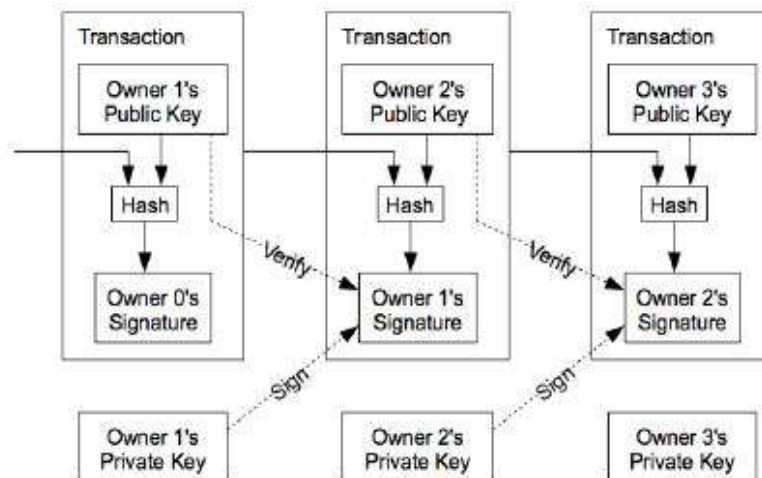


Fig 1 Voting Block

2. PROPOSED SYSTEM DESIGN FOR DIGITAL VOTING

Based on the defined voting needs and blockchain as a service, this section presents a new e-voting system. We describe the blockchain's setup, specify the e-voting smart contract that will be put on the blockchain, and demonstrate how the proposed system meets the envisioned voting requirements.

A. Setup of the blockchain.

In order to satisfy the privacy and security requirements for e-voting, and to make sure that the election system shouldn't enable coerced voting, voters will need to choose a supervised environment. In our work, we setup a Ethereum blockchain to realize these goals. Ethereum uses an algorithm that delivers comparatively fast transactions through a consensus mechanism supported identity as a stake. the rationale for using Ethereum is it is the world's first programmable blockchain. Ethereum is a version of Bitcoin, with a few key modifications. Both allow you to use digital money without the usage of third-party payment services or banks. But Ethereum is programmable, so you'll also use it for many different digital assets – even Bitcoin. This also means Ethereum is for quite payments, it is also a marketplace of monetary services, games and apps that can't steal your data or censor you. Ethereum makes use of Solidity, a statically typed curly-brace programming language developed for creating Ethereum smart contracts. After setting a secure and personal blockchain, subsequent step is to define and deploy a sensible contract that represents the e-voting process on the blockchain infrastructure.

B. Election as a sensible contract

Defining a sensible contract includes three parts:

- (1) identifying the roles that are involved within the agreement (the election agreement in our case),
- (2) the process of reaching an agreement (i.e., the election process), and
- (3) the transactions (i.e., voting transaction) utilized in the smart contract.

1) Election roles: The roles during a smart contract include the parties that require to participate within the agreement. The election process has the subsequent roles:

(i) Election administrator: Responsible for overseeing the election process. During this job, multiple trustworthy institutions and corporations may be enrolled. The election administrators are in charge of creating the election, registering voters, determining the election's duration, and assigning permissioned nodes.

(ii) Voter: a person who is eligible to vote. After an election, voters can authenticate themselves, load election ballots, cast their vote, and verify their vote.

2) Election process: In our work, each election process is represented, by a group of smart contracts, which are deployed on the blockchain by the election administrators. a sensible contract is defined for every of the voting districts.

The following are the most activities within the election process:

(i) Election creation: Election administrators create election ballots employing a smart contract which the administrator defines an inventory of candidates for every voting district. District nodes receive access to communicate with their respective smart contract after the smart contracts are placed onto the blockchain.

(ii) Voter registration: The registration of voter's phase is conducted by the election administrators. When an election is made the election administrators must define a deterministic list of eligible voters. This might require a component for a government document identification service to securely authenticate and authorize eligible individuals. Using such a service is important to satisfy the need of secure authentication as this is often not guaranteed, by default, when employing a blockchain infrastructure. In our work, for every eligible voter, a corresponding identity wallet would be generated. A singular wallet is generated for every voter for every election that the voter is eligible to participate in.

(iii) Tallying results: The tallying of the election is completed on the fly within the smart contracts. Each ballot smart contract does their own tally for his or her corresponding location in its own storage.

(iv) Verifying votes within the voting transaction, each voter receives the transaction ID of his vote. In our e-voting system, voters can use this transaction ID and attend a politician election site (or authority) employing a self-confirmation with their electronic identification, they use a blockchain explorer to locate the transaction with the appropriate transaction ID on the blockchain. As a result, voters may see their votes on the blockchain and double-check that they were listed and counted appropriately. This type of verification meets transparency standards while preventing vote tampering.

3) Voting transaction: Each voter interacts with a ballot smart contract for the voting district to which she belongs. The associated district node communicates with the blockchain using this smart contract, appending the vote to the blockchain. For verification purposes, each voter obtains a transaction ID for his or her vote. Every vote that is mandated by the majority of district nodes is recorded as a transaction and subsequently added to the blockchain. In our suggested system, a transaction contains data on i) the transaction ID, ii) the block which the transaction is found at, iii) to which smart contract the transaction was sent – which indicates from which voting district the vote was cast, and iv) the worth of the transaction, i.e., the vote, indicating which entity (party) the voter voted for.

As a result, in today's world, the idea of adapting digital voting techniques to make the public political process cheaper, faster, and easier is appealing. Making the voting process inexpensive and quick normalises it in the eyes of voters, lowers a power barrier between the voter and the elected official, and puts pressure on the elected official. It also allows for a more direct type of democracy by letting people to voice their preferences on specific initiatives and propositions.

3. CONCLUSION

Trusted elections are essential for strong democracies, and citizens should have faith in the electoral system. Traditional paper-based elections, on the other hand, are untrustworthy. We presented a blockchain-based electronic voting system that uses smart contracts to provide secure

and cost-effective elections while maintaining voter privacy in this study. We've demonstrated that blockchain technology provides a new way to overcome the limits and adoption obstacles of electronic voting systems, ensuring election security and integrity while also laying the foundation for transparency. It is feasible to transfer hundreds of transactions per second into an Ethereum private blockchain, employing every component of the smart contract to lighten the burden on the blockchain.

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Flappy Bird Game Using Python

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1.Introduction:

Flappy Bird is a mobile game developed by Vietnamese video game artist and programmer Dong Nguyen, under his game development company Gears. The game is a side-scroller where the player controls a bird, attempting to fly between columns of green pipes without hitting them.

2. History:

Flappy Bird was originally released on May 23, 2013 on the Apple App Store with little success. Although this would change after the game was being reviewed by the Swedish Youtuber PewDiePie, who noted on how incredibly frustrating yet addicting the game was. After PewDiePie's review was uploaded on late December 2013, Flappy Bird's popularity has dramatically exploded. In January 2014, it topped the Free Apps chart in the US and Chinese App Stores, and later that month topped the same section of the UK App Store where it was touted as "the new Angry Birds"^[3]. The Android version of Flappy Bird was released to the Google Play store on January 30, 2014, and would have reached over 10 millions of downloads in just a week before its removal.

System Requirements:

- Python 3.7 with Pygame library installed
- OS: Windows 7/8/10
- Minimum RAM of 512 MB
- Storage: 20MB of Available Space
- Processor: Any
- Graphics: Any

3.Gameplay:

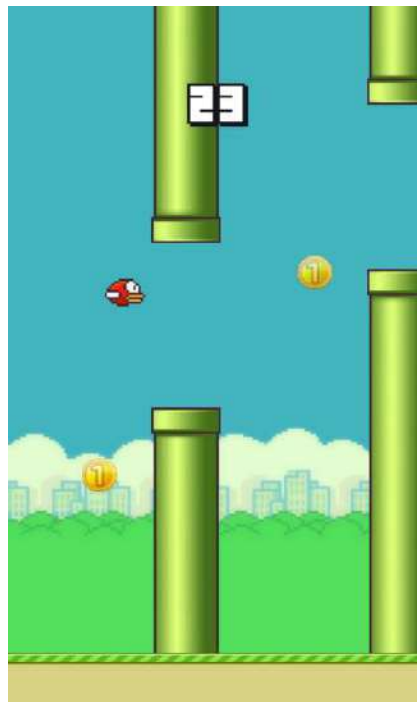
Flappy Bird is an arcade-style game in which the player controls the bird Faby, which moves persistently to the right. The player is tasked with navigating Faby through pairs of pipes that have equally sized gaps placed at random heights. Faby automatically descends and only ascends when the player taps the touchscreen. Each successful pass through a pair of pipes awards the player one point. Colliding with a pipe or the ground ends the gameplay.

Our Flappy Bird game in action:

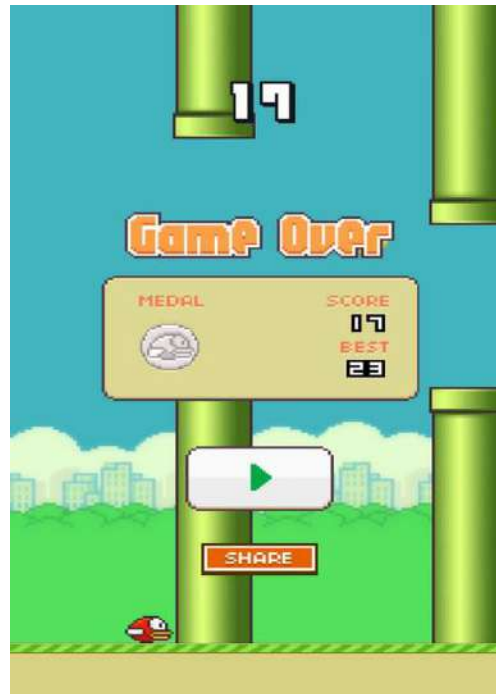
- 1) The initial screen of the game:



- 2) After a first touch on the screen, the game starts and you have to try to move the bird forward by avoiding the pipes to score as many points as possible.



- 3) Finally, if the bird hits a pipe or touches the ground, the game is over and the end of game screen is displayed

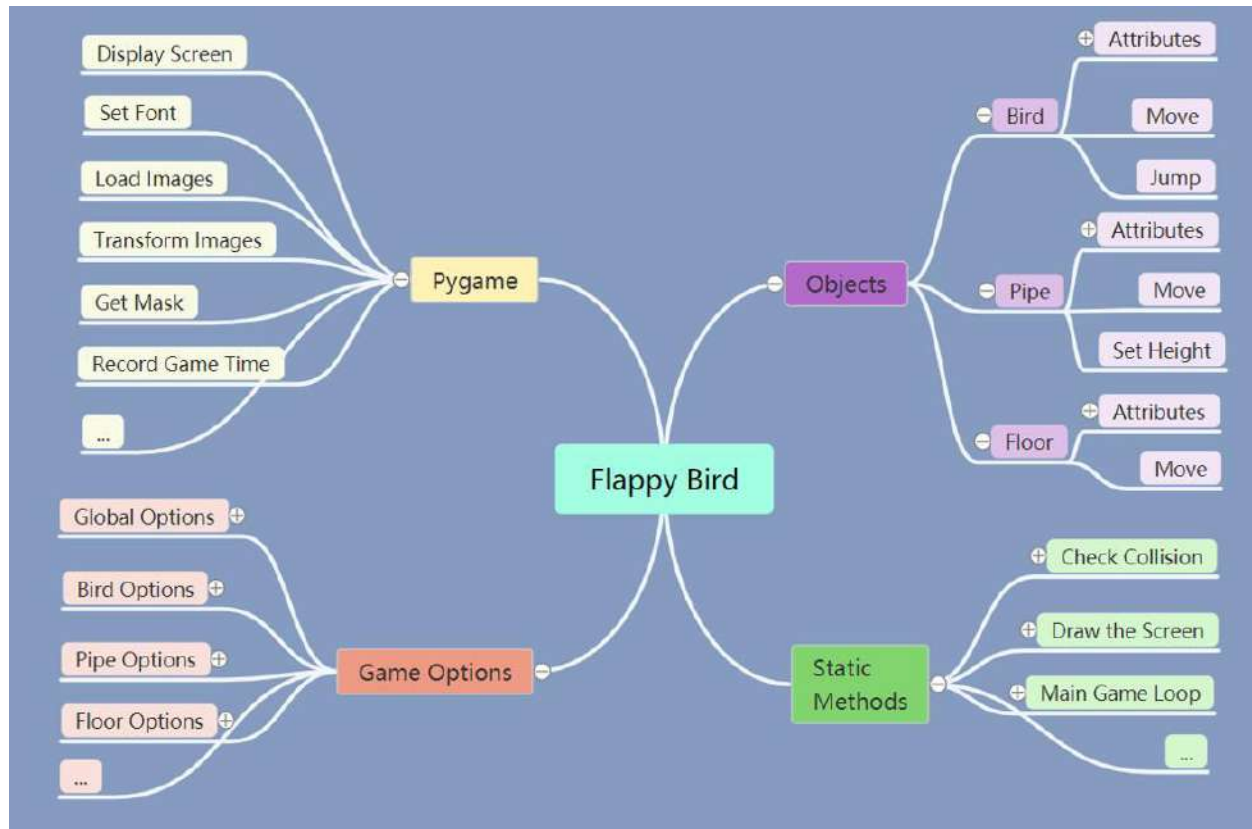


The Flappy Bird Game - Highest Score is 999!

Further Changes to make this game quite attractive and popular one is :
 (According to me if we add this certain points it could attract more users :)

- 1) We can even add levels after scoring certain minimum points ,and this can enhance the popularity of this game by attracting more users in way of achieving more levels.
- 2) we can increase or decrease the size of pipes ,for increasing the complexity of this game and also making it more interesting.
- 3) we can even add different colour pipes from perspective of catching attraction of users.
- 4) We can even add pop-ups after certain intervals of scoring few points to encourage the user for playing further.

4. FLOW CHART:



5. MODULES:

In this game, the main objective of the player is to gain the maximum points by defending the bird from hurdles.

We will be using these modules to create this Flappy Bird game

Module Description:

1)Random module: random() function, which generates random numbers between 0 and 1.

2)Pygame module: Pygame library is an open-source module for the Python programming language specifically intended to help you make games and other multimedia applications. Pygame can run across many platforms and operating systems.

3)Sys module : For function of sys module we will use sys.exit to exit the program.

4)Module for global variables: This module is for the global variables for the game.

5)welcome main screen module : It is for the function of welcome main screen. It shows welcome images on the screen

6)main game play module : It is for the function of main gameplay of a game. It Creates 2 pipes for blitting on the screen. Includes the list of upper and lower pipes. Checking for score function, add a new pipe when the first is about to cross the leftmost part of the screen.

7)get random pipes module : This module is used for the function of get random pipes. It Generate positions of two pipes(one bottom straight and one top rotated) for blitting on the screen.

8)image module : It is used for the function of images to be use in a game.

9)sound module: It is for the function of sound/audio use in a game.



6. Legacy:

Just a few days after its removal, Flappy Bird became one of the most cloned games in Apple's App Store. In only 2 days after its removal, there are over hundreds of clones of Flappy Bird on the App Store.

At the peak of its popularity, over 60 clones per day were appearing on the App Store, prompting both Google and Apple to begin rejecting games with the word "Flappy" in the name for a while.

Shortly after the game's removal, security researchers warned that some versions of Flappy Bird and its imitators available on alternative Android app stores have been found to contain malware

that can lead to unauthorised charges to a user's phone bills. The number matching game Threes! has been compared to Flappy Bird because of the similarities between how people react to them and by the chain of clones that they are both respectively part of.

As of 2020, it is estimated that over 200,000 Flappy Bird clones were published on App Store and Google Play.

7. Conclusion:

From my Perspective, this game is a stressbuster. It rejuvenates mind of people. It's been scientifically proven that people who play video games have better spatial coordination and fine motor skills than those who don't. Not only will this make you more coordinated in your everyday life, but it could also help you be a better driver, keep your eyesight from failing and make you more intelligent.

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- 3) <https://youtu.be/itB6VsP5UnA>

Gas Leakage Detection with GPS navigation

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ABSTRACT

In this paper a Gas leak detection security system has been implemented for identifying gas leakage in closed environment. The leakage can be identified by using various sensors. However, many such cases can lead to a loss of properties and harm human life. The implementation of this approach is useful for many companies, house owners and car owners which can save lives. This can be also used as an application in chemical and hazardous industries where there is a continuous need of monitoring gas leaks. We can find the different types of gas leak with the help of different types of sensors. This system will be super-efficient for car or the persons who drives. Many times, such situation has occurred where people carelessly leave their children or pets locked inside their car which can result into death by suffocation due to harmful gas. This system will be useful here as it will detect such leaks and send an alert to three different personals which also includes fire department. Such leaks can cause a huge blast. This system will counter such incidents by sending the exact coordinates of the location to the emergency department and the owner of the vehicle.

Keywords: *Gas leak, Leak detection*

1. INTRODUCTION

LPG gas is a mostly used gas in the resident and urban sector as it is not costly and easily available. LPG gas can be used in the vehicles like car, rickshaw and at different service station. The gas is heavier than normal air and stay at the low-level and spread fastly in case leakage occurs. A continuous monitoring is required for the safety measures at industrial and residential areas. Sometimes, A gas leakage from cylinder may cause damage to the human life. LPG gas Sensors are used to overcome such problem in day-to-day life.

LITERATURE SURVEY

A monitoring system for gas leakage is important for the security of human being. Nowadays, wireless sensors network and integrated system have been widely used for detecting gas-leakage in present environment [1].

Somov A, Baranov A, Spirjakin D, et, al. used Wireless Sensor Networks (WSNs) along with catalytic gas sensors and ZigBee module implemented and used in many factories. Response under various scenarios are collected from catalytic gas sensors, and calculated result based on the Received Signal Strength Indicator and Link Quality Indicator metrics [2].

Jain P C, Kushwaha R identified various WSNs with semiconductor sensors and ZigBee module for residential areas like residents and industrial pipelines of oil and gas. Investigations are conducted to study the interaction between sensors and coordinator [3].

Frish M B, Wainner R T, Green B D, et al implemented a gas leakage detection system based on Tunable Diode Laser Absorption Spectroscopy (TDLAS) and calculated its usefulness in real time environment [5].

Xu B, Yu D, Wu J, et al have suggested a airborne infrared laser leak detection technology, and illustrated the airborne infrared laser leak detector can identify the leakage when the helicopter flies with the rate of 30-50m/s and the flight height less than 80m. [6].

PROBLEM STATEMENT

To avoid explosion due to gas leakage or death by suffocation from gas leakage. Improvised version of gas leak detector.

- Less effective and time consuming
- Cost is very high
- SMS alert can be ignored which can result into explosions

2. OBJECTIVE

The different gas sensors will be used for the detection of a dangerous gas leakage in various gas station, cars, storage tanks and homes. The circuit are built with sensor attached with alarm to give an alert to the operators through a buzzer sound in the region where the gas leak is occurring. This system also helps us to detect the different types of gases like cigarette smoke, toxic gases, combustible, LPG etc.

The main objectives of our proposed system are as follows:

1. Monitoring Gas leakage
2. Providing a sensor to detect various types of gas.
3. To detect harmful gas leaks and send an alert to respective personals which includes fire department
4. To raise knowledge about gas leakage and their consequences so that people can be careful in the future.

PROPOSED METHOD

The objective of the proposed system is to implement a smart automatic gas leakage detection system. It is specifically used for homes, offices, industries etc. The alert system will be installed at each floor of the buildings and used to identify the gas leakage also sensors are used for detecting leakage. The main idea is to design a low-cost system that will be easily manufactured and portable yet systematic gas leakage detection system that make sure security for households, offices and industries.

If the gas level crosses the threshold level, then user will receive the SMS through GSM. The system turns on the buzzer to notify the person nearby to the system and also at the same time Relay is turned on. As Arduino is having an inbuilt Analog to Digital converter system that is why need not to connect any external devices.

This system is benefits in cases when there are senior citizens, small children in house. Due to carelessness, there might be gas leakage which can lead to measure accidents. The system can avoid such incidents by sending an alert SMS to the house owner or by turning Buzzer at the same time

At the same time the user receives the coordinates of the location through sms alert so that it will be easy to track down the user if he is driving or at steady state.

This system will help user who accidentally leaves their children and pets locked inside their car.

The fire department or the emergency service provider will also receive this alert with GPS coordinates so that it will be easy to track down the spot.

If implemented correctly this system will extremely useful for companies, households or user who drives etc.

The systems consist of following components like:

1. **Arduino Nano**
2. **Micro Controller**
3. **Gas Sensor**
4. **Weight Sensor Display**
5. **GSM modem**

RESULTS and DISCUSSION

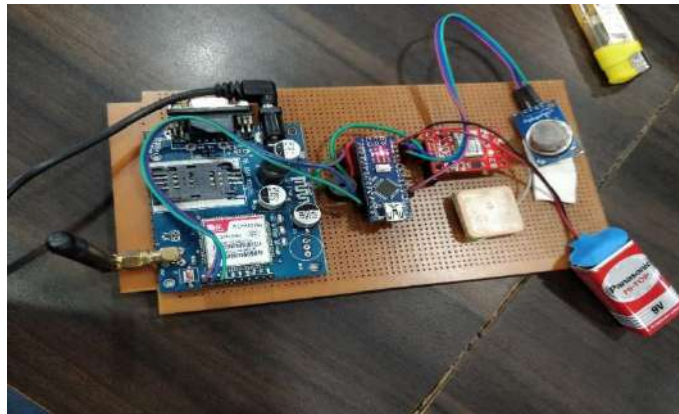


Figure 1: Arduino Nano

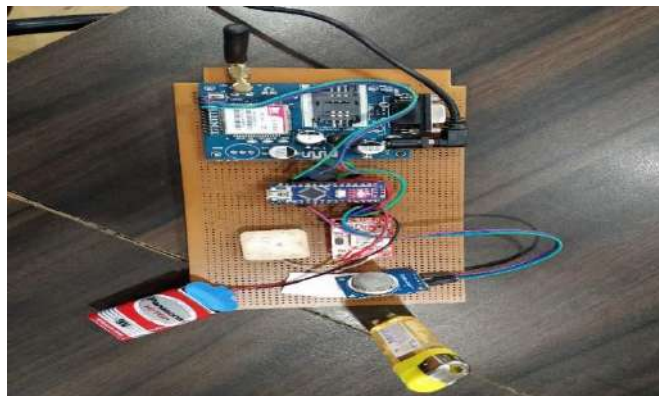
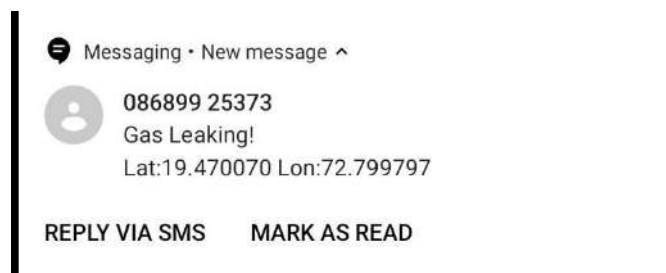


Figure 2: Circuit Diagram



With the help of this message user can be alerted about the gas leak and user can take necessary precautions to avoid it. With the help of GPS coordinates it will be easier to track down the location of the spot where gas leak occurred.

3. CONCLUSION & FUTURE WORK

Gas leakage leads to severe accidents which results in human loss and it occurs mainly due to bad maintenance of equipment's and less awareness of the people. The system plays an important role to prevent accidents and to save human lives. The system is simple and reliable.

Advantages of this system:

- If there is any gas leakage it will be detected automatically and will avoid accidents
- People and companies will be aware about the gas leakage advantages and disadvantages.
- Real time notification of gas leakage and location through SMS.
- Security system will boost up and people be aware about the consequences.

The current system can be further enhanced by making the use of Bluetooth instead of GSM which can be used to send the alert messages to user. Robot can also be used for detecting multiple gas concentrations. Along with this temperature sensor can be used for identifying high pressure gas in cylinder pipe and if temperature is reached at high level, it will generate an alert message to inform peoples.

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Scrutinization And Analysis On Detailed Description Of Human Resources Management Of Overseas Industries Relating To Recruiting And Head Hunting And Influential Outcome Of Travel And Related Industry Due To IT Industry.

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ABSTRACT

The purpose of this paper is to provide a review of the strategic human resources management (HRM) and travel industry literature from the points of view of both general management and hospitality and tourism and overseas recruitment and abroad study and concerns regarding counterfeiting of travelling documents from a international boundaries visa to a flight Itinerary Design and job offers verification .

methodology/approach of the paper provides a critical, qualitative and comparative review of the strategic HRM research in the fields of general management and hospitality and tourism and travel agency and industry providing insights into emerging research trends and pointing to the gaps in the IT communication and candidates relative views . Findings The results of the review showed streams of research from the hospitality and tourism and travel industry of human capital and firm performance, high-performance HRM practices and performance, international/global issues and strategic HRM, individual HRM practices and performance, qualitative reviews of the hospitality and tourism HRM and country-specific strategic HRM. This review also points to the gaps between the two bodies of a recruitment firms, job offering industry and gives recommendations for future research. Practical implications The current conceptual model provides a useful framework for examining how strategic HRM practices impact firm performance through macro (organizational) and micro (individual) levels. The current review illustrates the important role that frontline managers have in delivering HRM practices. Originality/value This review provides a conceptual model for future research and practical implications also the how conceptual and influential is IT to the travel industries what are the normal and matter of concern for the travel agency and job offering recruitment firm and discusses brief analysis on the job offer scam and document counterfeiting in the recruitment and travel industries.

1. INTRODUCTION

Glossary (TRAVEL AGENCY AND HRM)

HRM industries and HRM consultancies are the factor that is responsible for empowerment of people, a tremendous scope for job enrichment and a passion for perfection in every aspect of commercial and business needs . It is also the industry that defines the work progress and enhancement of a development of country by emphasizing and exercising talent hunting and

scrutinize the resultant for the best services possible and also achieve employment of every sector and field of life and run through processes it provides various overseas and in house opportunities and is also one of the main source of boosting the canonical economy of the country , it is one of the reason that global relationship are being empowered and globalization is seen the ultimate boost and it shows that different aspect of work and culture ethics tradition can come together and live and work at once.

Travel agency is one of the most important organizations in the tourism private sector which plays a significant and crucial role in the entire process of developing and promoting tourism in the country or at a destination. It is a travel agency which packages and processes all the attractions, accesses, amenities and ancillary services of a country and present them to tourists. That's why travel agency is known as 'image builder' of a country.

The travel services sector is made up of a complex web of relationships between a variety of suppliers, tourism products, destination marketing organizations, tour operators, and travel agents, among many others.

Employment scam is one of the serious issues in recent times addressed in the domain of Online Recruitment Frauds (ORF). In recent days, many companies prefer to post their vacancies online so that these can be accessed easily and timely by the job-seekers. However, this intention may be one type of scam by the fraud people because they offer employment to job-seekers in terms of taking money from them. Fraudulent job advertisements can be posted against a reputed company for violating their credibility. These fraudulent job post detection draws a good attention for obtaining an automated tool for identifying fake jobs and reporting them to people for avoiding application for such jobs.

This application is develop to provide best travelling and recruiting or head hunting and requirement services to customers and travel agency as well as recruitment agents. We have developed this project system to provide a search platform where a tourist can find their tour places according to their choices. This system helps to promote responsible and interesting tourism and placement sector and employment medium so that people can enjoy their holiday at their favourable destination and have their rightfully deserved placement and jobs in their desired sectors. This also helps to develop tourism with different cultures , ethics and morals so that they enrich the tourism experience and have a abroad working experience and build pride and connect emotional support with super charging roads if fastly growing world. We develop this system to create and promote forms of tourism that provides healthy interaction opportunities for tourists and locals to build legal trust and beneficiaries in the fields of travelling and employment industry that is HRM management industry

There are listed documents required while going on a tour, especially on a foreign trip. Travel documents such as passport, VISA (It is an endorsement on a passport indicating that the holder is allowed to enter, leave, or stay for a specified period of time in a country), health certificates, vaccination, insurance, foreign currency etc. It takes time to get the VISA clearance from the

concerned embassies. All such functions are handled by travel agencies and tour operators to help their clients a hassle free travel. Travel documents are very essential. If they are not in proper order, tourists may find themselves in big trouble, particularly on foreign trips. They may not be allowed to enter the

country if documents are not in proper order a lot of them face issues because of tampering and counterfeiting of these documents which result in huge loss of money and time and morals we have assured every possible help in this project and also there is a special fastline for the same.

2. OBJECTIVE :-

1.The main objective of this title and creating a website is validation and verification of the bench mark of every travel agency and HRM Consultancies work, ethics process and agenda also their document verification and singular manipulation and cross – verification of overseas job .

For example :- Job offer letter, visit visa , companies profiling and job authentication and verification.

2.the website that people may come across while web searching Or browsing for their travel requirements Or looking for jobs may be full of bugs Or unethical scam Or even if they are genuine they only give a one way means of communication .

3.The main purpose and objective of this website is built a responsive website with a additional fastline service that would respond to customer problem and verify and adhere their concern to the fullest.

Fastline is a technically built in feature of the website that works on CCE executive which helps in verifying any documentation and originality of a profiling and any industrial based claim and offers.

PROBLEM STATEMENT :

As mentioned in the objective of the project the main focus is to attract people and help them put with their queries about travelling and recruitment process also this is a real address to the fake, malicious, and fraud that the customer are facing due to counterfeit of their documents and also false job letters and other accommodating offers and objective documents so we would develop a simple but effective helpline in the website known as fast line in which we would verify the documents if the customer is willing to question it's creditinals via mail Or given services in the website plus they can enjoy a genuine website full of travel experience and valid job requirements and recruitment.

The problem arising in developing this website is a challenge of adding additional feature and provide uniqueness and significant coding and a hefty and Reasonable sense of marginal errors and bugs that we may come across while developing it also to ensure that this is devoid of any bugs or unexpected cons or disruption in services.

Research and Methodology (Case Studies) :-

1. Information Research and analysis.
2. Data and news and online article manipulation.
3. Physical and virtual confrontation with clients and their various experiences.
4. Documentation and thorough research of valid document and humanitarian ground for errors and having skills and complete information about market and research analysis.
5. Results and previous and new forms of scams and their various themes on which it is based.

Description about the above points are as follows.

Fake job rackets have become a booming industry, thanks to shrinking jobs in private as well as public sector and hordes of students passing out of low-quality professional colleges. According to the Centre for Monitoring Indian Economy, India's unemployment rate in April 2019 shot up to 7.6%, the highest since October 2016. Combined with easy accessibility of the Internet, this has come as a boon for job scammers, who are offering non-existent jobs to desperate youth. "Students fresh out of college, from one of the thousands of engineering colleges in small towns, are easily trapped. Their parents have invested Rs 4-5 lakh and now want the kids to earn big money. Foreign jobs, especially in the Gulf, are coveted," says Bilal Hasan, Head of Sales, Quetzal & Head Honchos

Little wonder then that embassies, companies and job portals have started putting up advisories on their websites to warn the applicants. On 28 April, the Indian embassy in Qatar tweeted: 'Please do not trust any recruiting agent who promises you a job in Qatar on a business/visit visa. Always ask for a copy of the agent's Qatar ID.' Groups such as Tata Consultancy Services, Shell and Monster.com have also put up warnings on their sites. If you are also looking for jobs, here's how to avoid being duped by scamsters.

For most scamsters, online job portals are a popular haunt to find prey. Here's how they proceed:

1. Applicant profiles accessed from job recruitment sites
2. Mass mailers sent to potential candidates.
3. Fraudsters pose as job consultants, set up fake websites, temporary 'offices'.
4. Candidates are asked to deposit registration fees via wallet or bank transfers.
5. Online or telephonic interviews are conducted.
6. Fake appointment letters are offered.

Victims Profile

These are the type of people who are most likely to fall prey to job scams

- Mostly from tier 2 or tier 3 cities

- Graduate from lesser known colleges or institutes
- Poor interpersonal communication skills
- 0-5 year work experience
- In their early to mid-20s
- Not good at written or spoken English
- Not very skilled at their jobs; low professional expertise
- Have applied on job portal

MODUS OPRENANDI OR APPROACHES :

Scammers adopt different approaches to find and nail their prey.

Phishing & Mailing :

This is probably the easiest way for racketeers to find victims en masse (*see Modus Operandi: Steps*). “By posing as freelance job consultants, they scour multiple job portals like Monster, Naukri, Times Jobs and Shine to get access to their databases,” says Hasan. They then send mass mailers and, even if they dupe 5% of job-seekers, they make a lot of money. The mails typically ask for a security deposit, interview fee or other charges, a prerequisite for scheduling an interview. While some fraudsters disappear as soon as they get the money, others go so far as to conduct a quick online or telephonic interview before allotting a fake appointment letter.

Fake websites :Duplicate websites of reputed companies, job portals or government departments are created to mislead applicants. “They then post fake jobs, conduct tests and upload results, before charging the successful candidates for clearing the interview,” says Neeti Sharma, Senior Vice-President, TeamLease Services. Some even go so far as to set up temporary offices, hiring staffers, conducting interviews, allotting appointment letters and charging fees in instalments.

Campus placement : Scammers pose as job consultants and directly contact the chairmen of colleges or institutes in small towns. They promise placements in top and reputed firms, and charge a lump sum. They mostly vanish before conducting the promised interviews.

Hall of Infamy : Hiring scams

1. Ghaziabad Scam

In June 2018, three men were arrested from Kavi Nagar in Ghaziabad for cheating hundreds of job seekers over two years.

Amount: Rs 3.5 crore

2. Hyderabad Scam

In June 2018, three men were held in Hyderabad for extracting Rs 2 lakh each from 60 unemployed youth in three months.

Amount: Rs 1.2 crore

Measures one can take and what we provide for that as a solution:-

Here is the checklist you should follow to foolproof your job selection process.

Go to authentic, official websites: Most companies advertise new job positions on their official websites. So, instead of replying to dubious mails, go to the career page of the company and apply directly on the site. “In case of online job portals, make sure you are routing your resumes via the original sites, not responding to a link provided in a mail. “For foreign jobs, you should either go to government portals, or local job consultant websites in the country you are applying for a job,” says Hasan. Do not approach ‘agents’ in India to secure a foreign job posting.

Post CVs with specific job positions: While posting your resume on job portals, make sure that the CV is written for the specific post you want. “Prepare the CV and cover letter so that they match the jobs you’re applying for and list only the relevant, recent job experiences,” stated in an article of economic times on 10 January.

Our website developed is not based on b2b portal has only registered means of source that we trust and rely on also the main executive are the one handling all verification and responses through fastline so it as effective and the customer or the in need candidate can assume and get full use of the source of commodity that is available to him.

You may get a call, a text message, or a flyer in the mail Or maybe you may see an online ad promising free or low-cost vacations. Scammers and dishonest people are often behind these offers. You may end up paying hidden fees — or worse: after you pay, you might find out it’s all a scam.

Common Travel Scams

Free” vacations

You’ve probably seen ads online for “free” vacations. Or you may have gotten emails, calls, or text messages saying you’ve won a vacation, even though you never entered a contest. If you respond to these offers, you’ll quickly learn that you have to pay some fees and taxes first — so your “free” vacation isn’t really free. A legitimate company won’t ask you to pay for a free prize.

Robocalls about vacation deals

You might get robocalls offering you vacation deals at a discounted price. Robocalls from companies trying to sell you something are illegal unless the companies got written permission, directly from you, to call you that way. If someone is already breaking the law by robocalling you without permission, there’s a good chance it’s a scam. At the very least, it’s a company you don’t want to do business with.

International travel document scams

You might see sites that claim to be able to help you get an international travel visa, passport, or other documents. These sites are just copycats of the U.S. Department of State website. But these sites charge you high fees, including fees for services that are free on the government's official site.

International driving permit scams

An international driving permit (IDP) translates your government-issued driver's license into 10 languages. Scammers create websites to sell fake IDPs, or try to sell them to you in person or some other way. If you buy a fake IDP, you'll be paying for a worthless document. But, even worse, you also could face legal problems or travel delays if you're detained for using it to drive in a foreign country. Only the U.S. Department of State, the American Automobile Association (AAA), and the American Automobile Touring Alliance (AATA) are authorized to issue IDPs.

Vacation home scams

These days, it's easy to connect directly with property owners who advertise their vacation homes online. But scammers are also trying to get your rental booking. For example, they hijack real rental listings and advertise them as their own, so when you show up for your vacation, you find out that other people are also booked for the same property. You have no place to stay, and your money is gone. Other scammers don't bother with real rentals — they make up listings for places that aren't really for rent or don't exist.

Charter flight scams

You may get a flyer in the mail, see an ad, or hear from someone in your community about an offer to travel by private plane to some place you'd like to go. The offer may even include lodging and sightseeing tours. You think you're signing up for a charter flight and vacation package, but after you pay, you find out it's all a scam. The U.S. Department of Transportation's (DOT) Special Authorities Division maintains a list of approved public charter flights. If the charter filing is not approved by DOT before the package is sold, you're probably dealing with a dishonest charter operator.

Signs of a Scam

A "free" vacation that you have to pay for. Scammers often try to get your attention by saying you won something, but then making you pay to get it. But that's a scam. If you have to pay, it's not really free — and all those fees and taxes can add up to hundreds of dollars.

Not getting specific details about the travel offer. The offer says you'll stay at a "five-star" resort or go on a cruise on a "luxury" ship. But if the organizer won't or can't give you more specific details, like the address of the hotel or the cruise company name, walk away. That's a scam.

They say the only way to pay for your vacation rental is by wire transfer, gift card, or cryptocurrency. This is how scammers ask you to pay because once they've collected the money, it's almost impossible to get it back. That's a scam, every time.

Pressure to make a quick decision about a vacation package or rental. If someone says you have to decide whether to buy a travel package or rent a vacation property right away, don't do it. Scammers want to rush you. So move on and find another option.

Premium vacation properties advertised for super cheap prices. Below-market rent can be a sign of a scam. Do some extra research to confirm the deal is legitimate before jumping in. And then review these signs of a scam before you pay.

Also there various more scams running on the surface as the technical team heads the research to avoid it the summers intrude to find more into every aspect making it a vulnerable industry.

3. Overview:-

The overview of our developed site is as follows

1.login module :

Login information and creditinals.

2.Booking:-

Reservation services partially active.

3.Packages :-

Various Package regarding tours and travels in various countries.

4.Services:-

Details of various services we offer.

5.Jobs and requirements :

Hot jobs and other new Requirements and recruiting processes

6.Gallery:

All Access to every digital aspects of our best features and also our achievement so far

7. Reviews, Branches, location and social links , contact branch locations and social media access pages only for viewing purposes.

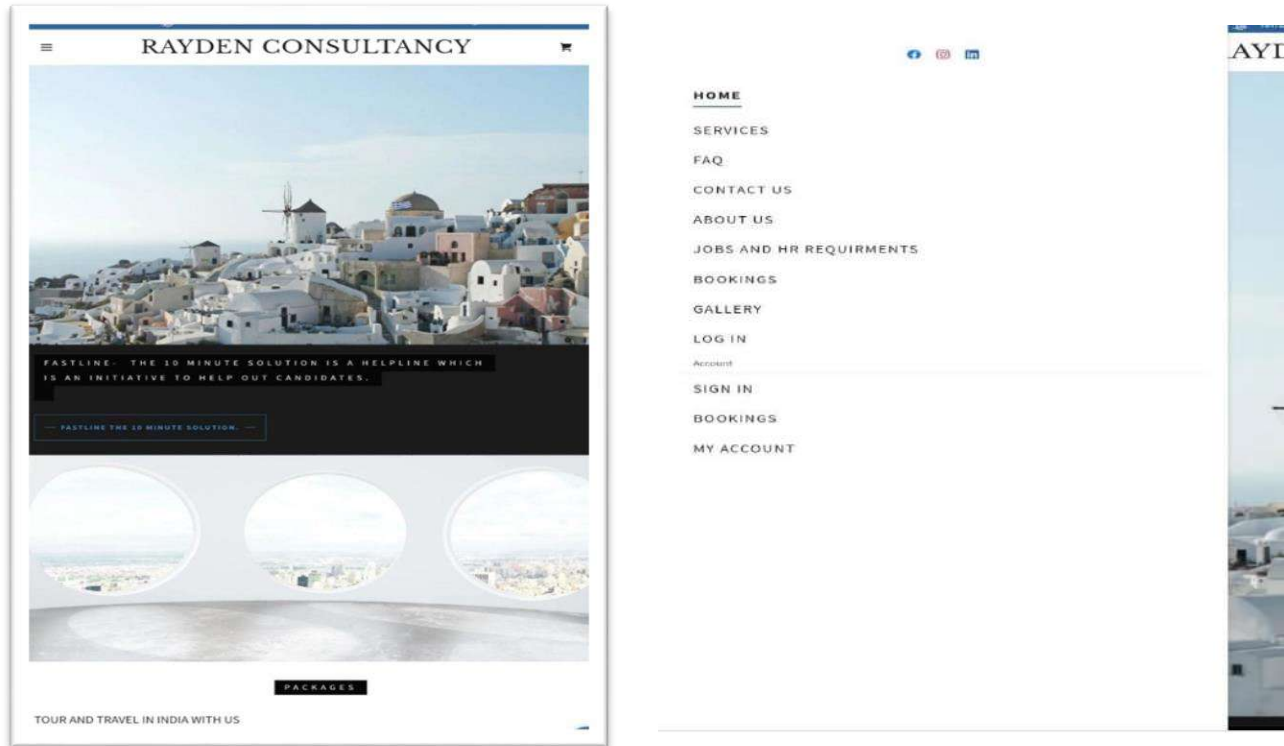
8.FASTLINE - THE 10 MINUTE SOLUTION :

The main theme of our website to avoid any types of scams and verification also consultation for any confusion or any services with any related topics of travelling and recruitment requirements.

9. Book Consultations :-

You can boom offline and online consultation and services which may be cost effective or free of cost according to needs. This is just an overview of site. Changes may be made and additional feature can be considered for the same.

For information you can visit our site <https://raydenconsultancy.com>



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Online Voting System Using Xampp Server

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ABSTRACT

The **Online Voting System** is a web based application. The system has a centralized database to keep records of all the Voters and Candidates and Final Results. This web based system is time saving, work load reduced information available at time and it provides security for the data. During the election, the election commission of India has introduced a new method of polling by online voting system (OVS). The election commission will maintain this website. This is a simple, safe and secure method that takes minimum of time.

The word **VOTE** means to choose from a list, to elect or to determine. The main goal of voting (in a scenario involving the citizens of a given country) is to come up with leaders of the people's choice. Most countries, India not an exception have problems when it comes to voting. Some of the problems involved include rigging votes during election, insecure or inaccessible polling stations, inadequate polling materials and also inexperienced personnel.

1. INTRODUCTION

Online Voting is a web-based voting system that will help you manage your elections easily and securely. This voting system can be used for casting votes during the elections held in colleges, etc. In this system the voter do not have to go to the polling booth to cast their vote. They can use their personal computer to cast their votes. There is a database which is maintained in which all the name of the voters with their complete information is stored. Still since quite long time going to the polling booth and standing in long queue to cast vote has been persistent and it was challenging for the Government to motivate the public to participate in the election system and cast their vote, as there was no such online voting system available . But all the credit goes to the internet and the Software developers who are going to made it possible soon for everyone to cast their vote to the candidate of their own choice with the un-matchable ease.

2. PURPOSE

Now as we all know, almost everything can be done online. Like Money transfer, Shopping, Booking, Teaching, Data sharing, Admissions, Job search, etc. And so many other activities are done with the help of internet. So with the

use of internet, we are going to take this existing voting system on advance level. We are going to develop an online platform with high security so that the same process could be done easily without the waste of time, afford, and energy. We are going to develop an online platform with high security so that the same process could be done easily without the waste of time, afford, and energy .So firstly, voters and groups/candidates are required to register on online voting system. Once registration is done, voter can easily vote to their respected candidate or group by just signing in with the comfort of his/her home. And similarly, groups/candidates can do the same as well as also monitor their status with the comfort of home. So this system will save a lot of time, energy, and afford for both voters and groups.

3. SURVEY OF TECHNOLOGIES

Some of the existing technologies are as follows:

- Udemy
- Khan academy
- Coursera
- W3schools
- TedEd
- Open Culture

4. REQUIREMENT AND ANALYSIS

4.1 Problem Definition

The existing manual Voting system consumes more time for Vote Casting. Voter has to wait for vote polling station to vote for a right candidate. The election officers has to be check the voter , this voter can vote in this booth then check voter ID present in voters list of booth those are information will be present then the voter can vote in that booth. The voter had to stand in the queue to cast his vote. All the work is done in paper ballot so it is very hard to locate a particular candidate, some voters cast their votes for all candidates. To overcome of all these problems we have to implement a web application, which is helpful for Voting from anywhere.

4.2 Functional Requirements

1. Voters

Voters are the people who will first sign up on online voting panel. And then at the time of voting, they will login and do vote to their respective group or candidate via system.

Following data from voter side will be provided to the system at the time of registration:

- Name
- Mobile
- Address
- Status
- Votes

- Role (voter/group)
- Photo
- Password

Voters responsibilities:

- Registration on system
- Login to system
- Voting for the candidate

2. System

System is an online platform where election process is held. So the voters and groups are registered here. And with the help of system, voters can do voting and groups can monitor their status.

System responsibilities:

- Registration of both voter and candidate
- Display of registered candidates with respective votes on homepage
- Display of registered candidates on voter dashboard if any
- Display of profile info and voting status on voter dashboard
- Display of profile info, voting status, and votes on candidate dashboard
- Maintaining record for each candidate and voter without making any duplicate record.

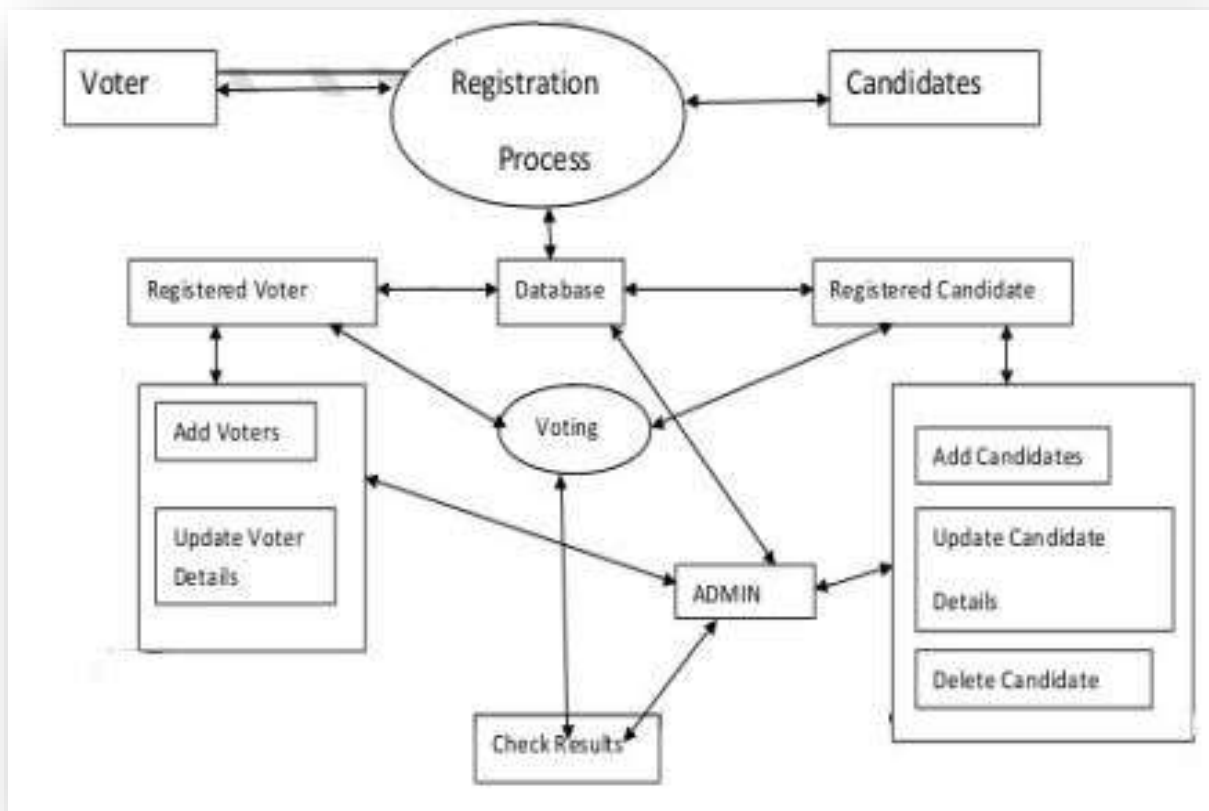
3. Groups

Groups/Candidates/Parties are those who will be given votes at the time of voting. And they can monitor their status by just doing login into system.

Following data from group/party side will be provided to the system at the time of registration:

- Name
- Mobile
- Address
- Status
- Votes
- Role (voter/group)
- Photo
- Password

4.3 ER DIAGRAM



4.4 SOFTWARE REQUIREMENTS

1. HTML : HTML (HyperText Markup Language) is the most basic building block of the Web. It defines the meaning and structure of web content. Other technologies besides HTML are generally used to describe a web page's appearance/presentation (CSS) or functionality/behavior (JavaScript). "Hypertext" refers to links that connect web pages to one another, either within a single website or between websites. Links are a fundamental aspect of the Web. By uploading content to the Internet and linking it to pages created by other people, you become an active participant in the World Wide Web.

2.CSS : Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language such as HTML.^[1] CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.^[2]

CSS is designed to enable the separation of presentation and content, including layout, colors, and fonts.^[3] This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple web pages to share formatting by specifying the relevant CSS in a separate .css file which reduces complexity and repetition in the structural content as well as enabling the .css file to be cached to improve the page load speed between the pages that share the file and its formatting.

3. JAVASCRIPT

JavaScript often abbreviated as JS, is a programming language that conforms to the ECMAScript specification. JavaScript is high-level, often just-in-time compiled, and multi-paradigm. It has curly-bracket syntax, dynamic typing, prototype-based object-orientation, and first-class functions. Alongside HTML and CSS, JavaScript is one of the core technologies of the World Wide Web. JavaScript enables interactive web pages and is an essential part of web applications. The vast majority of websites use it for client-side page behavior, and all major web browsers have a dedicated JavaScript engine to execute it.

4. PHP : Hypertext Preprocessor is a server side scripting language designed for web development and also used as a general purpose programming language. It was originally created by Rasmus Lerdorf in 1994. The php reference is now produced by the php group. Php originally stood for personal home page. But now it stands for recursive initialism php hypertext preprocessor. Php code may be embedded into html code. It can be used in combination with various web template systems, web content management systems, and web frameworks. Php code is usually processed by a php interpreter implemented as a module in the web server or as a common gateway interface executable. The web server combines the results of interpreted and executed php code, which may be any type of data, including images, with the generated web page. Php code may also be executed with a command line interface and can be used to implement standalone graphical applications.

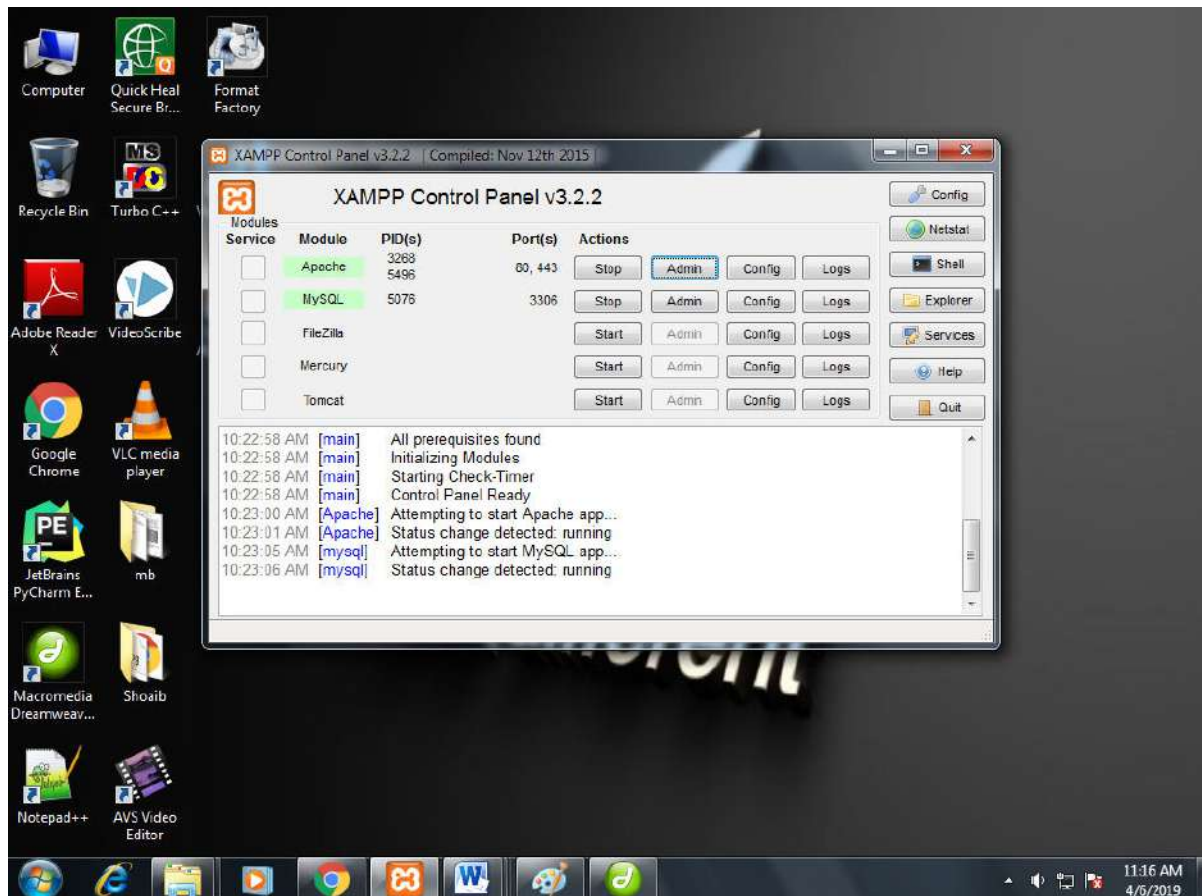
4.5 HARDWARE REQUIREMENTS

- **PROCESSOR : INTEL CORE i7**
- **RAM : 8 GB**
- **HARD DISK : 465 GB**

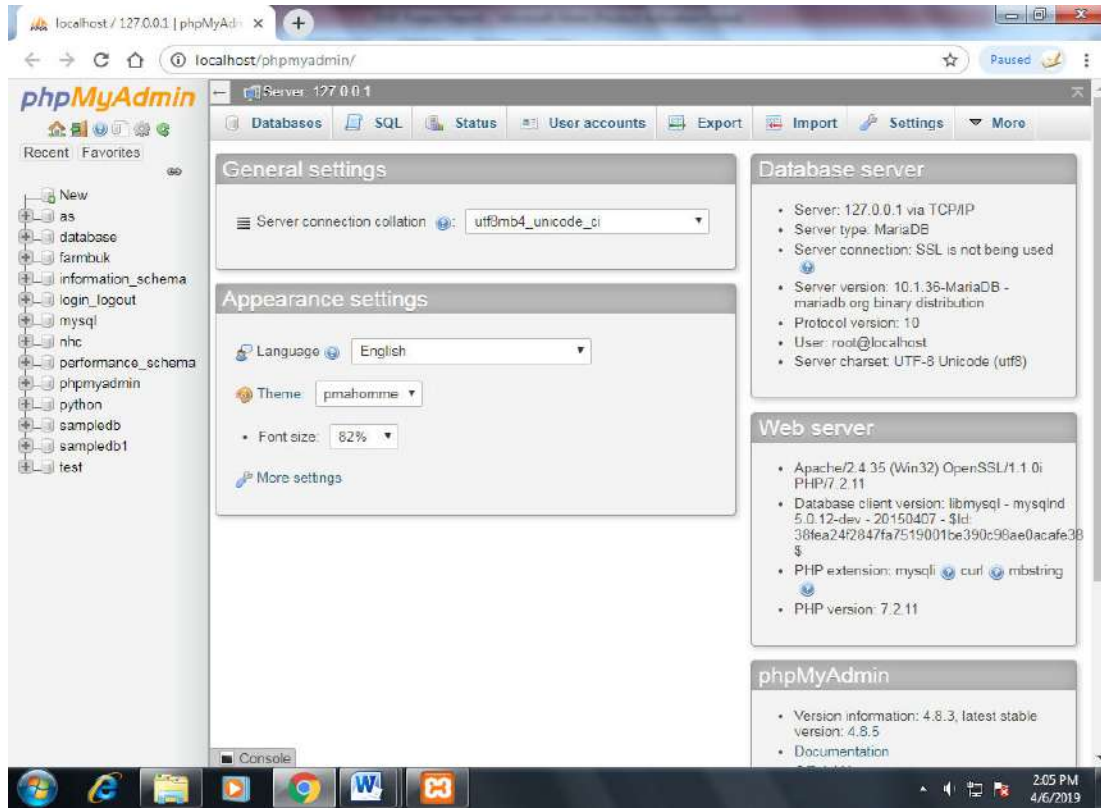
4.5 XAMPP SERVER

XAMPP is an open source free software developed by Apache friends. XAMPP software package contains Apache distributions for Apache server, MariaDB, PHP, and Perl. And it is basically a local host or a local server. This local server works on your own desktop or laptop computer. You can just install this software on your laptop or desktop and test the clients or your website before uploading it to the remote web server or computer. This XAMPP server software gives you suitable environment for testing MYSQL, PHP, Apache and Perl projects on the local computer. The full form of XAMPP is X stands for Cross-platform, (A)Apache server, (M) MariaDB, (P)PHP and (P)Perl. The Cross-platform usually means that it can run on any computer with any operating system.

XAMPP SCREEN VIEW

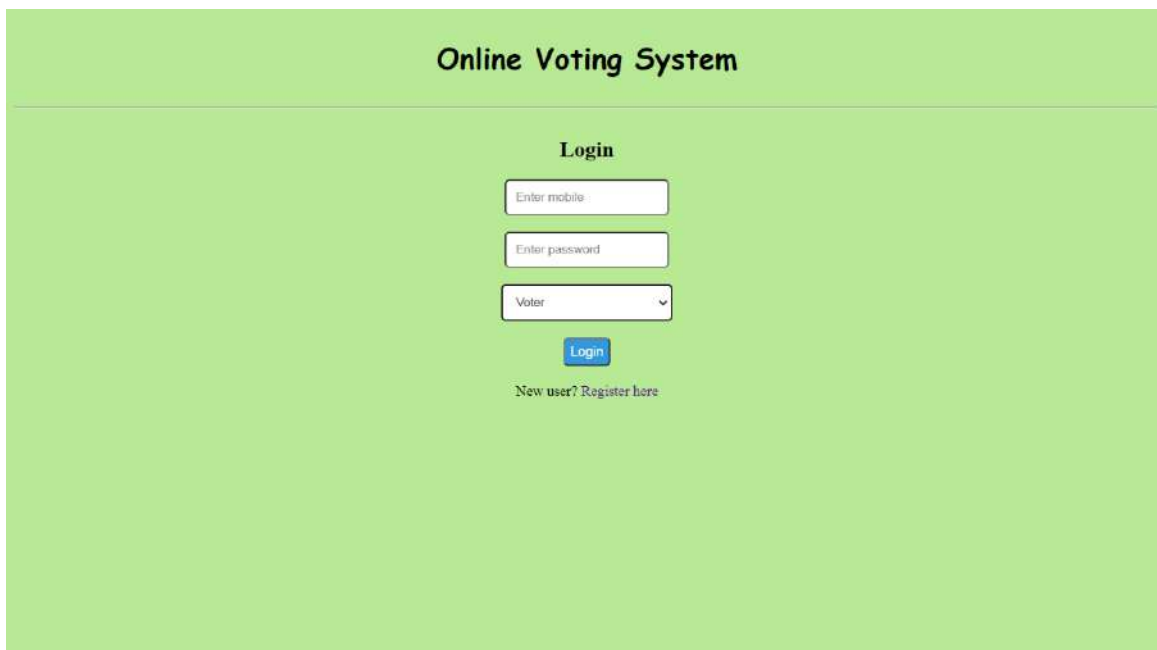


4.6 MYSQL DATABASE : MySQL ("My S-Q-L", officially, but also called "My Sequel") is (as of July 2013) the world's second most widely used open-source relational database management system (RDBMS). It is named after co-founder Michael Widenius daughter, My. The SQL phrase stands for Structured Query Language. It is the world's most popular open source database. It is a Relational Database Management System (RDBMS) - data and its relationships are stored in the form of tables that can be accessed by the use of MYSQL queries in almost any format that the user wants.



5. FIGURES

User Interface



6. CONCLUSION

This Online Voting system will manage the Voter's information by which voter can login and use his voting rights. The system will incorporate all features of Voting system. It provide the tools for maintaining voter's vote to every party and it count total no. of votes of every party. There is a DATABASE which is maintained by the ELECTION COMMISSION OF INDIA in which all the names of voter with complete information is stored. In this user who is above 18 year's register his/her information on the database and when he/she want to vote he/she has to login by his id and password and can vote to any party only single time. Voting detail store in database and the result is displayed by calculation. By online voting system percentage of voting is increases. It decreases the cost and time of voting process. It is very easy to use and It is vary less time consuming. It is very easy to debug.

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OBJECT DETECTION USING MACHINE LEARNING

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ABSTRACT

Computer Vision is the branch of the science of computers and software systems which can recognize as well as understand images and scenes. Computer Vision is consisting of various aspects such as image recognition, object detection, image generation, image super-resolution and many more. Object detection is widely used for face detection, vehicle detection, pedestrian counting, web images, security systems and self-driving cars. Object detection is one of the most basic and central tasks in computer vision. Its task is to find all the interested object in the image and determine the category and location of object. Object detection is widely used and has strong practical value research prospects.

Keywords: Object recognition, Bounding box, Yolo algorithm, python, machine learning

1. INTRODUCTION

The project comes under the domain Machine Learning which is the part of Artificial Neural Network. Machine Learning concepts makes the system learn on its own from the experiences it gains, without the interference of the external factors. The YOLO (You Only Look Once) algorithm using Convolutional Neural Network is used for the detection purpose. It is a Deep Neural Network concept from Artificial Neural Network. Artificial Neural Network is inspired by the biological concept of Nervous System where the neurons are the nodes that form the network. Similarly, in Artificial Neural Network perceptions act like the nodes in the network. Artificial Neural Network has three layers that are, Input Layer, Hidden Layer and the output Layer. Deep Learning is the part of the Artificial Neural Network that has multiple Hidden Layer that can be used for the Feature Extraction and Classification purposes. Convolutional Neural Network (CNN) is the part of Deep Learning that is used in analysis of visual imagery. It has four different kinds of layers, they are, Convolutional Layer, Pooling Layer, Activation Layer and Fully Connected Layer. Convolution Layer uses filter and strides to obtain the Feature Maps

2. PURPOSE

The purpose of object detection is to detect all instances of objects from a known class, such as people, cars or faces in an image. Generally, only a small number of instances of the object are present in the image, but there is a very large number of possible locations and scales at which they can occur and that need to somehow be explored. Each detection of the image is reported with some form of pose information. This is as simple as the location of the object, a location and scale, or the extent of the object defined in terms of a bounding box. In some other situations, the pose information is more detailed and contains the parameters of a linear or non-linear transformation. For example, for face detection in a face detector may compute the locations of the eyes, nose and mouth, in addition to the bounding box of the face. An example of a bicycle detection in an image that specifies the locations of certain parts.

2.1 Scope

Object detection is breaking into a wide scope of enterprises, with use cases extending from individual security to efficiency in the working environment. Object detection is applied in numerous territories of image processing, including picture retrieval, security, observation, computerized vehicle systems and machine investigation. Critical difficulties remain in the field of object detection. The potential outcomes are inestimable with regards to future use cases for object detection. SURVEY OF TECHNOLOGIES

2.2 Detecting Object

Object detection is an important task, yet challenging vision task. It is a critical part of many applications such as image search, image auto-annotation and scene understanding, object tracking. Moving object tracking of video image sequences was one of the most important subjects in computer vision. It had already been applied in many computer vision fields, such as smart video surveillance (Arun Hampapur 2005), artificial intelligence, military guidance, safety detection and robot navigation, medical and biological application. In recent years, a number of successful single-object tracking system appeared, but in the presence of several objects, object detection becomes difficult and when objects are fully or partially occluded, they are obtruded from the human vision which further increases the problem of detection. Decreasing illumination and acquisition angle. The proposed MLP based object tracking system is made robust by an optimum selection of unique features and also by implementing the Adaboost strong classification method.

2.3 Template Matching

Template Matching is the technique of finding small parts of an image which match a template image. It slides the template from the top left to the bottom right of the image and compares for the best match with the template. The template dimension should be equal to the reference image or smaller than the reference image. It recognizes the segment with the highest correlation as the target. The positive things included the usage of priority queue improved quality of decision as to which bound-improved and when good matches exist inherent cost was dominant and it improved performance. But there were constraints like the absence of good matches that lead to queue cost and the arithmetic operation cost was higher. This has the advantage that it does not require much computational complexity as in the feature-based approach.

3. REQUIRMENT AND ANALYSIS

3.1 Problem Definition

Efficiency is an issue to be taken into account in any object detection system. As mentioned, a coarse-to-fine classifier is usually the first kind of classifier to consider when efficiency is a key requirement, while reducing the number of image patches where to perform the classification and efficiently detecting multiple classes have also been used. Efficiency does not imply real-time performance, and works are robust and efficient, but not fast enough for real-time problems. However, using specialized hardware (e.g., GPU) some methods can run in real-time (e.g., deep learning).

3.2 Functional Requirements

1. Object Recognition: Object recognition allows programs to pick out and identify objects from inputs like video and still camera images. The main purpose of object detection is to identify and locate one or more effective targets from still image or video data. It comprehensively includes a variety of important techniques, such as image processing,

pattern recognition, artificial intelligence and machine learning.

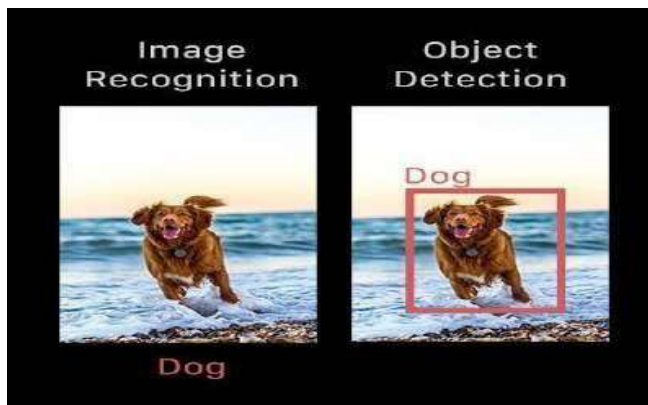


Fig (1) Bounding Box: A bounding box is an imaginary rectangle that serves as a point of reference for object detection and it will create a collision box for that object. Bounding boxes are great for detecting indoor objects like tables, chairs, cupboards, furniture or electronic systems. It can help machines get an idea of a room and the kind of objects placed there with their position and dimension making it easier to identify such things quickly in a real-life scenario. The bounding box is rectangular, which is determined by the x and y coordinates of the upper-left corner of the rectangle and the such coordinates of the lower-right corner.

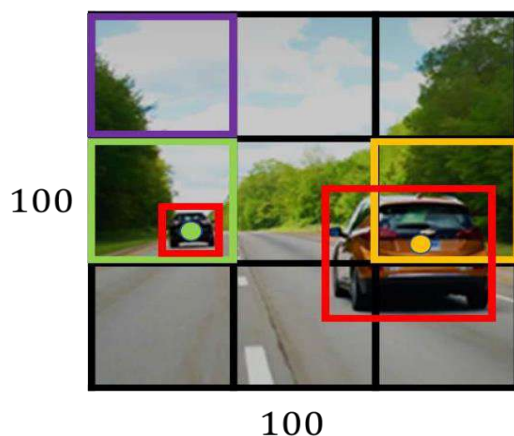


Fig (2)

2. Visual Object Tracking: It is the sequence of object locations in each frame of a video. Visual object tracking considers a problem of tracking of a single or multiple objects in the video. Task is to locate a certain object in all frames of a video, given only its location in the first frame. Object tracking is the process of locating moving objects over time in videos. One can simply ask, why can't we use object detection in each frame in the whole video and we can track the object. If the image has multiple objects, then we have no way of connecting the objects in the current frame to the previous frames.

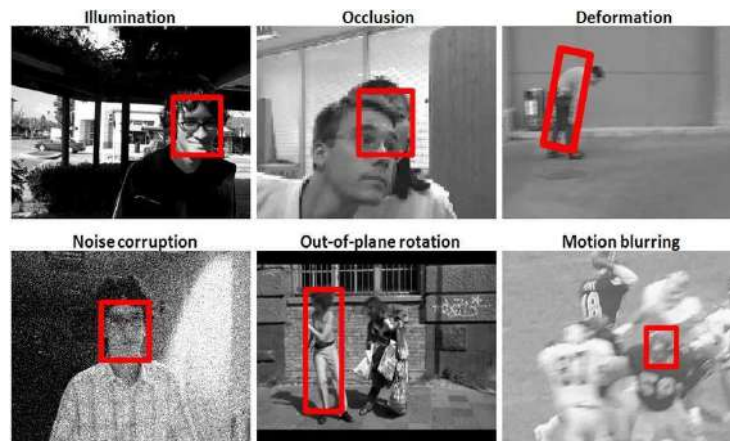


Fig (3)

Real Time Image Processing: Image Processing (IP) is a computer technology applied to images that helps us process, analyse and extract useful information from them. Colour Image Processing (Source) It is among rapidly growing technologies and has evolved widely over the years. Image processing is a method to perform some operations on an image, in order to get an enhanced image or to extract some useful information from it. It is a type of signal processing in which input is an image and output may be image or characteristics/features associated with that image

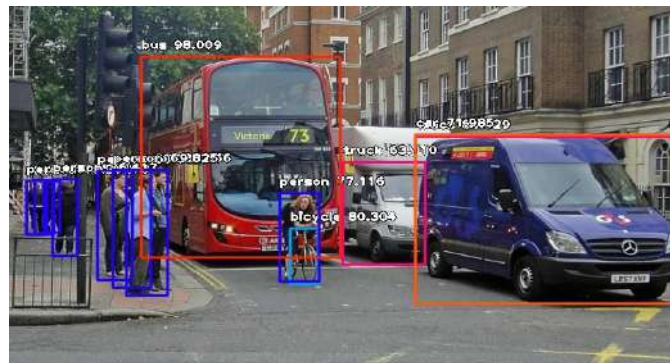


Fig (4)

3.3 Datasets

Understanding a model itself is less challenging than knowing where data scientists should implement it as its utilisation differs from dataset to dataset. Therefore, we must follow the end-to-end Machine Learning method on distinctive kinds of data and datasets. The more diverse datasets we use to construct our models, the further we understand the design. This is additionally a magnificent way to continue questioning yourself and investigate some exciting information being collected globally! One of the challenging subjects in computer vision, object detection, helps organisations understand and recognise real-time objects with the help of digital pictures as inputs. Here, we have posted the complete open-source datasets one can use for object detection projects.



Fig (5)YOLO Algorithm

YOLO is an abbreviation for the term 'You Only Look Once'. This is an algorithm that detects and recognizes various objects in a picture (in real-time). Object detection in YOLO is done as a regression problem and provides the class probabilities of the detected images. YOLO is an algorithm that uses neural networks to provide real-time object detection. This algorithm is popular because of its speed and accuracy. It has been used in various applications to detect traffic signals, people, parking meters, and animals.

Algorithm for Object Detection System

1. The input image is divided into $S \times S$ grid.
2. For each cell it predicts B bounding boxes Each bounding box contains five elements: (x, y, w, h) and a box confidence score.
3. YOLO detects one object per grid cell only regardless of the number bounding boxes
4. It predicts C conditional class probabilities.
5. If no objects exist then confidence score is zero Else confidence score should be greater or equal to threshold value.
6. YOLO then draws bounding box around the detected objects and predicts the class to which the object belongs.

Algorithm works Using the following Three Techniques:

- **Residual blocks:** there are many grid cells of equal dimension. Every grid cell will detect objects that appear within them. For example, if an object center appears within a certain grid cell, then this cell will be responsible for detecting it.
- **Bounding box regression:** YOLO uses a single bounding box regression to predict the height, width, center, and class of objects. In the image above, represents the probability of an object appearing in the bounding box.
- **Intersection Over Union (IOU):** there are two bounding boxes, one in green and the other one in blue. The blue box is the predicted box while the green box is the real box. YOLO ensures that the two bounding boxes are equal.

Combination of Three Technologies

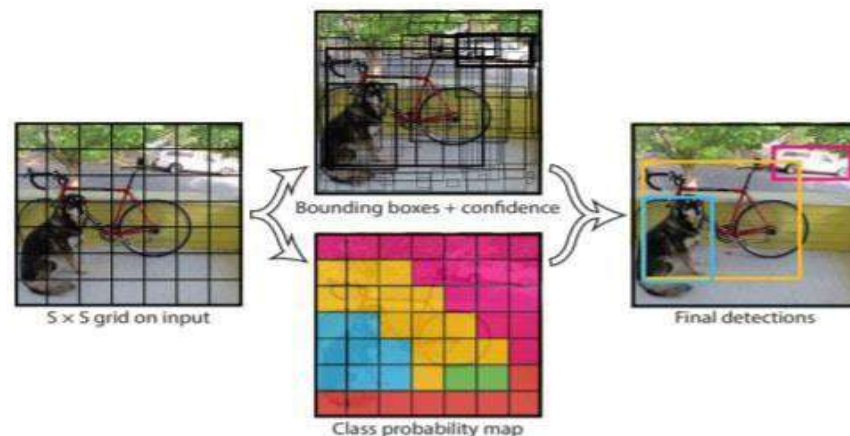


Fig (6)

5. CONCLUSION

The project is developed with objective of detecting real time objects in image, video and camera. Bounding Boxes are drawn around the detected objects along with the label indicating the class to which the object belongs. We have used CPU for the processing in the project. Future enhancements can be focused by implementing the project on the system having GPU for faster results and better accuracy.

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Android Application of Food Wastage Management

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ABSTRACT

This project used to manage wasted foods in a useful way. Every day the people are wasting lots of foods. So, we have to reduce that food wastage problem through mobile. If anyone has wasted foods, they click message send button and it will send the message of food availability, location information and their registered mobile number to nearest food donators. Then why will make a call first they will get the food. This system is android based application provides interaction between donor and receiver.

Keywords: Food donator, Collecting food, Food wastage problems

1. INTRODUCTION

Everyone enjoys the functions with a lot of food and other products and most of them left waste or unused. We all are waste food for various reasons. Typically, it's as a result of there has been an amendment of plans and it's out of our management, however, most of the time we tend to waste identical varieties of food for identical a pair of main reasons: We've got bought or read an excessive amount of, or we've got forgotten to use it on time. Regardless of the rationale why you throw out food, you got it and currently, its cost accounting you to throw it out. So, after you square measure throwing out food, or recording the food you've got wasted cash. A note the explanations for your scraps and see if their square measure tiny changes that you just will build to cut back this waste and prevent plenty of cash. In current system to reduce that food wastage problem through online. If anyone has wastage foods, they are entering their food quantity details and their address in that application and then the admin maintains the details of food donator. If anyone sees this information through this application they will go and collect the food and serve to poor people.

2. PURPOSE

In every Indian wedding, food is the most important part and the most wasted too! In India, statistics related to food wastage at weddings have been quite shocking, given the fact that it is the same country where countless number of people have to survive without the basic necessity of two meals a day. Following list by Venue Monk will give you an idea as to how much food is actually being wasted. Have a look: As the ranks of India's wealthy surge with rapid economic growth, many families are staging extravagant displays of food at their children's weddings to show off their newfound affluence. About one-fifth of the food served at weddings and social gatherings is discarded. The prodigious waste that follows has horrified many in a country where food prices are skyrocketing and tens of millions of young children are malnourished. Guests invited in weddings are mostly responsible for the food wastage because of different thoughts, mostly they have the fear that if they go second time to take the food they won't get it, for the first time they have seen the food they have never eaten before

or due to lack of education they do not realize that if they take extra food, it will get wasted. Around 100,000 weddings and social events are held in India every day. The country has enough food to feed its people but that poor cannot afford even two-square meals a day. Some 15-20 percent of food is wasted in marriages and various such social functions. In some cases, the waste is to the extent of 20-25 per cent when the number of dishes exceeds the number of guests invited to the marriage halls.

3. SURVEY OF TECHNOLOGY

Some of the existing technologies are as follow:

- No Food Waste
- FoodWise
- YWaste
- OLIO
- NoFoodWastet

4. REQRIMENT AND ANAYLIS

4.1 Problem Definition

If anyone have extra food because of any function or in their home it will be become waste because instantly there is no way to share with anyone if they are having lots of food. Even if they want to give that extra food to any orphanage or poor people, they don't have time or don't have an idea about that. So that we have create an application for sponsor that extra food to poor people or nearby needy people.

4.2 Functional Requirement

- i. **Users Register:** First you have to register yourself to use the benefit of application. You have to enter your full name, e-mail and password. The user's details are maintained confidential by maintaining separate account for each user.
- ii. **Login:** You have to enter your e-mail and password to login and use the application in a smooth way.
- iii. **View Items:** This module helps us to view the food which are available in your location and can search other food which are available or not in their location.
- iv. **Add Items:** In this module if you are going to donate the food then, you have to tell the all the information related to that like the food you will give to other, your location from where you will provide food and the very important your contact information from which people can book the food.
- v. **Add Items to Cart:** In this module if the user finds many foods donor in their location and they can put them in their cart for booking and after sometimes it is available also then you can book the food otherwise it is of no use of putting item into cart if the food is finished in that place.

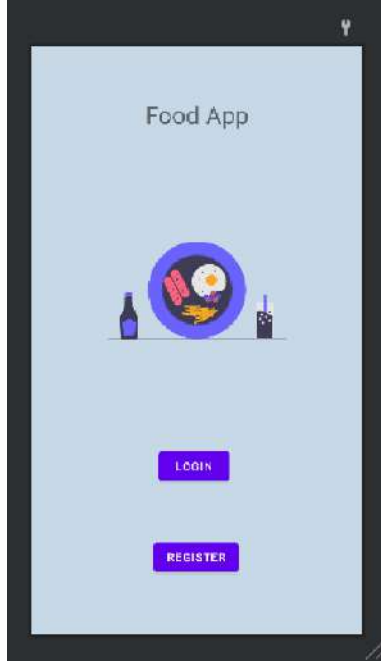
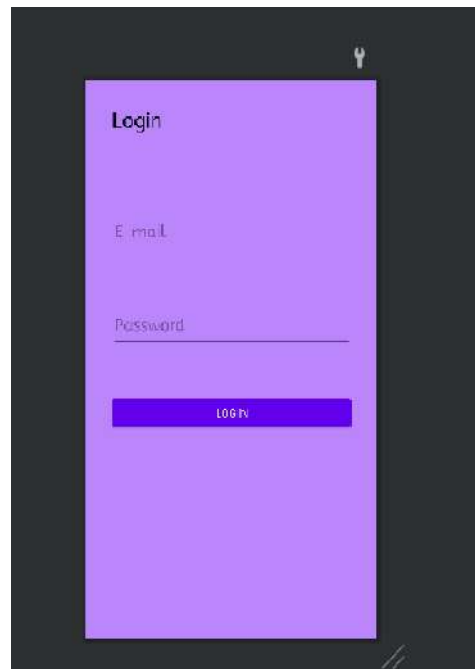
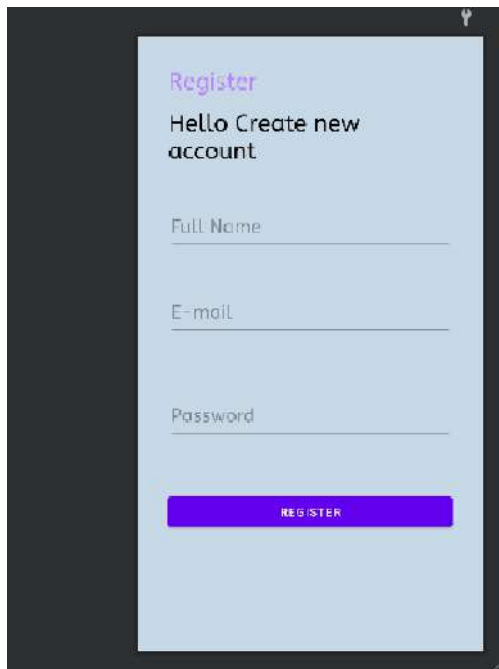
vi. Remove an Item from Cart: In this module the food item you have put in your cart have finished then there is no use of that so this will help you to remove that food item from your cart and you can put more items in your carts.

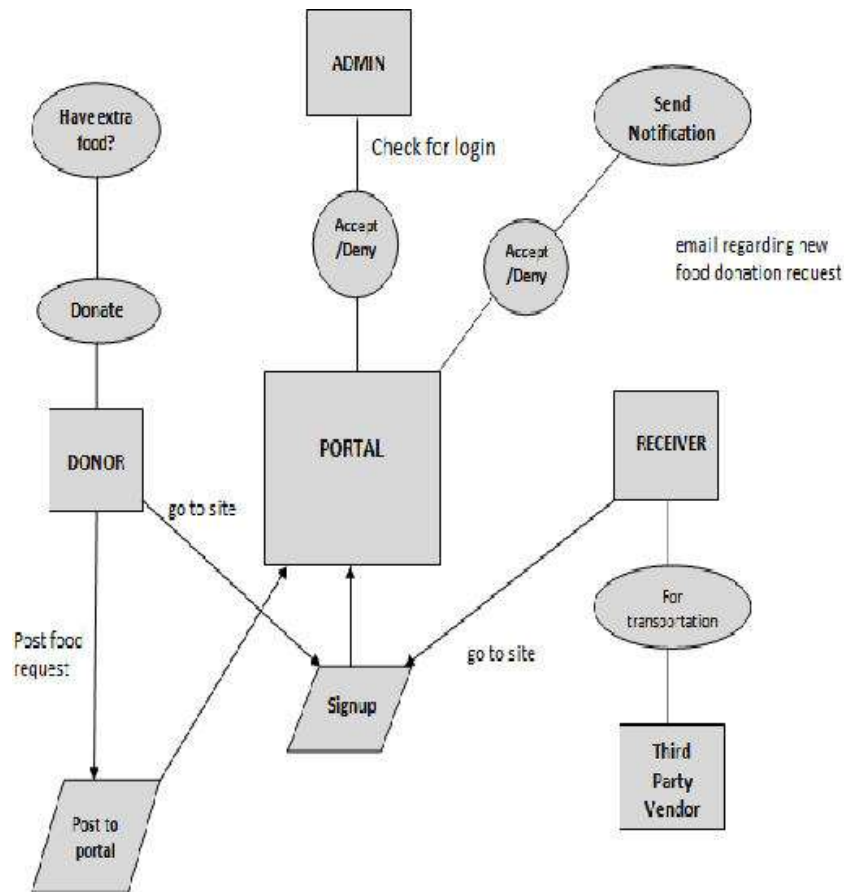
vii. Log Out: This helps you to get out of the application.

4.3 Non-Functional Requirements

- **Security:** The security requirements deal with the primary security. Only authorized users can access the system with username and password.
- **Performance:** Easy tracking of records and updating can be done.
- **User Friendly:** The User interface of it is very friendly and can be easily used by anyone.
- **Maintainability:** Backups for database are available.

5. FIGURES





6. CONCLUSION

The main objectives of the proposed application were to make reduction in food wastage as much as we can, and to feed those people who do not have enough food for one time to feed themselves. It's a big hassle hard for them to search food every day to feed themselves as well as their families, and also for donors to reach out to them. The software used to develop our android application is android studio and firebase for database. We hope in future this application will help to reduce the food wastage, and people starts to donate excess food to needy people or organizations.

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IOT based Smart Agriculture System Using Raspberry PI

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ABSTRACT

The paper presents the simple and affordable smart agriculture system using an embedded microcontroller on Raspberry PI. The following system doesn't require any proposed server or PC and thus easing the farmers work on field. To demonstrate the effectiveness and feasibility of the system, devices such as temperature sensor, humidity sensor, soil sensor, water pump, buzzers, motion sensor and actuator like water pump, buzzers are used along with Raspberry PI.

Keywords: *Raspberry PI, Sensor, Actuator*

1. INTRODUCTION

IOT is a growing trend that is now seen everywhere in day to day life from office workspace to home appliances like Alexa and many others. IOT has many applications in smart agriculture, smart cities, smart homes health care, business sector, traffic monitoring etc. Here we are going to focus on agriculture as it plays a vital role in economy of any country and is backbone of every country. Smart agriculture system can be described as introduction of technology within the agricultural environment to provide the convenience, comfort, security and efficiency to its occupants. The reason to develop this system is to save time and manpower along with security and convenience.

2. OBJECTIVES

1. Simple idea to take agriculture one step ahead
2. Smart use of sensors and actuators for irrigation purpose
3. Helps to measure soil moisture and perform irrigation accordingly
4. Helps to reduce manual work of farmer
5. Helps to manage other work efficiently due to some of reduced work load
6. Auto mated scarecrows help to flee unwanted intruders

2.1 Purpose

The purpose of smart agriculture system is to let farmers change along with the growing technology in today's modern era. Applied to all type of farming from fruits to crops all these can be managed efficiently with help of IOT. With smart agriculture system, farmers can carry out all day-to-day tasks. They can get complete control as well as allowing them to increase their productivity.

- Give farmer some peace of mind by giving them a great relief
- To help farmers of getting alerted of any intruder
- To show ease of integration of farming and technology with help of IOT

2.2 Scope

The project aims at designing a prototype for controlling the mechanical appliances through the new modern technology trends which ensures the safe and productive farming

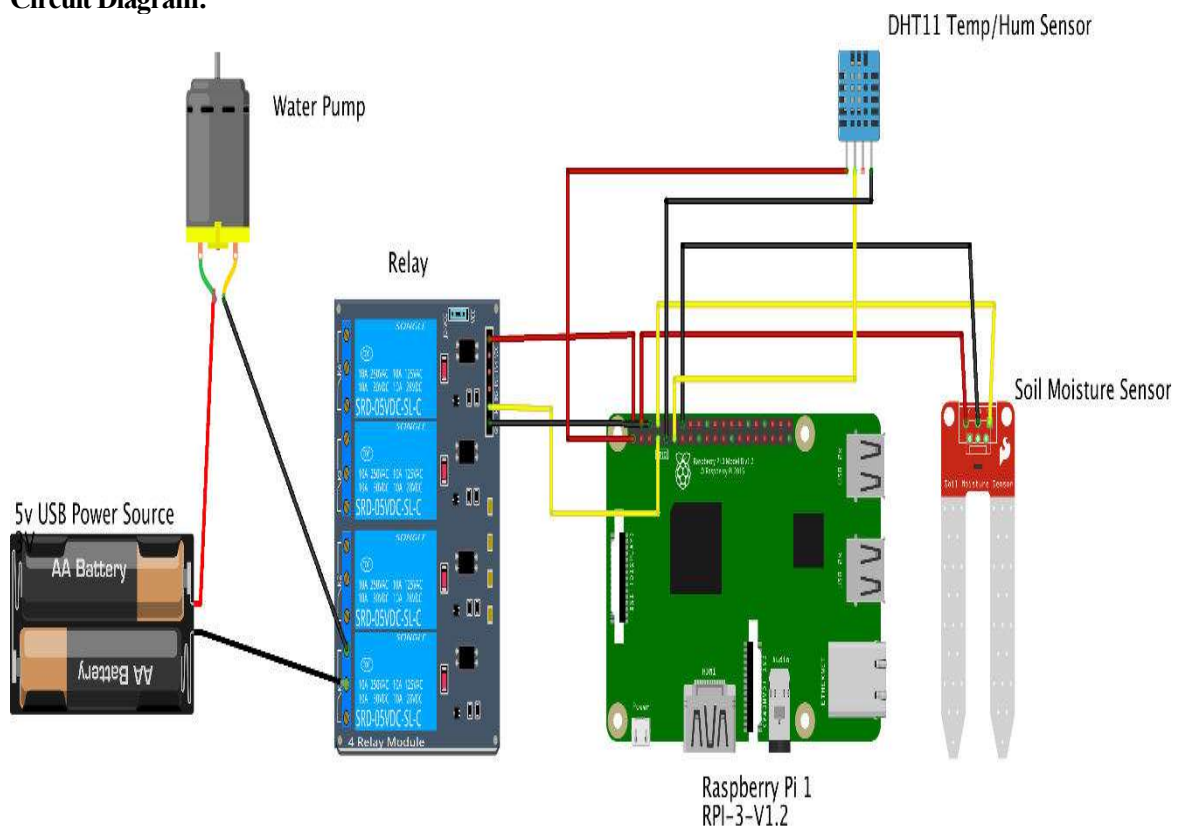
- The system can be used in small scale as well as large scale farming

- The system can be used on all type of crop type, fruit, vegetable
- Reducing the maximum work of farmer with minimal work required

3.1 Problem Definition

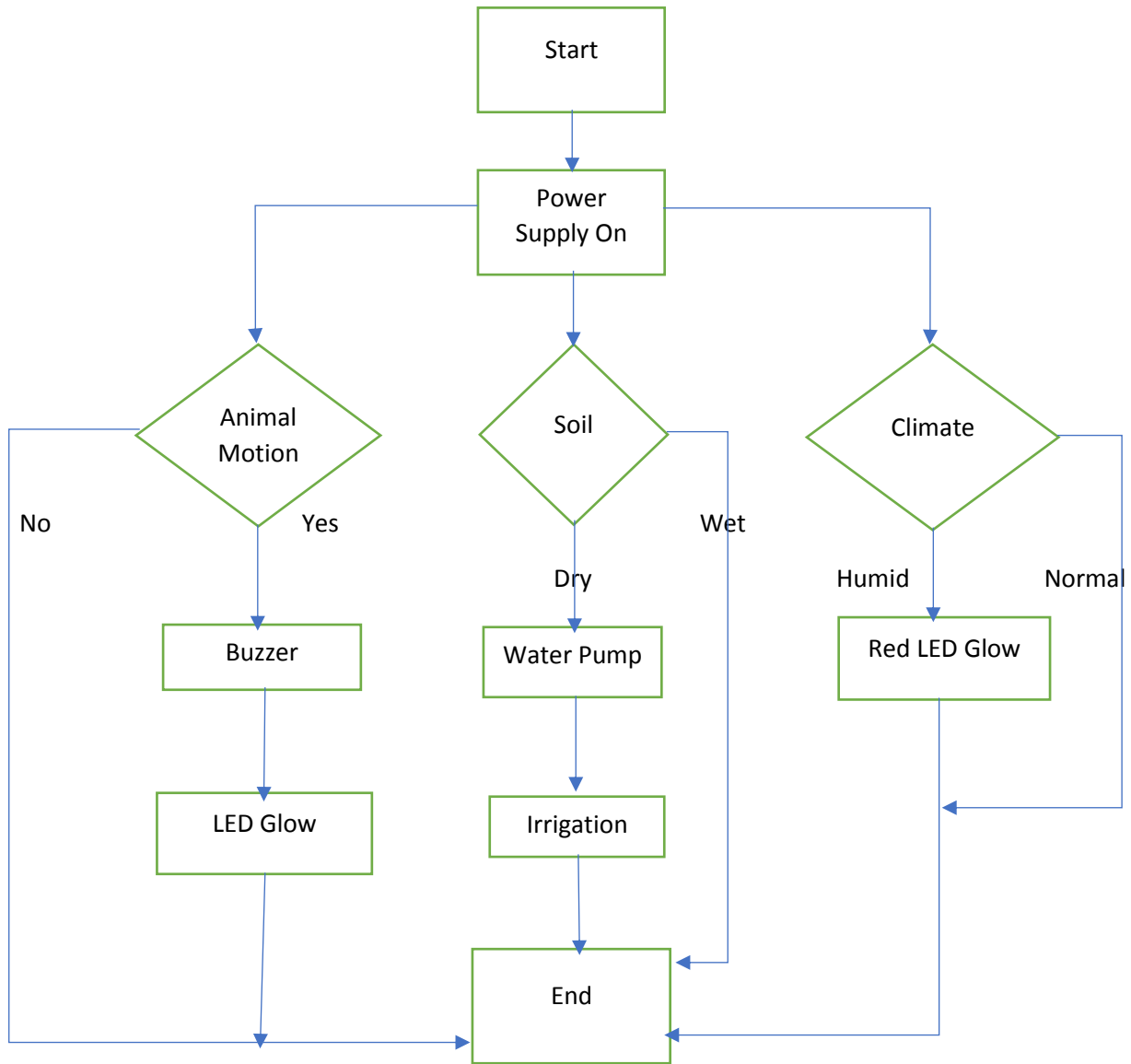
- ❖ Over irrigation can lead to damaging of crops.
- ❖ Over advance technology unable to handle by farmers efficiently.
- ❖ Wrong programming and connectivity can bring down whole project.
- ❖ Sensor or actuator failure can lead to trouble.
- ❖ High cost components can make project more expensive.
- ❖ Internet connectivity in rural areas are hard to come.

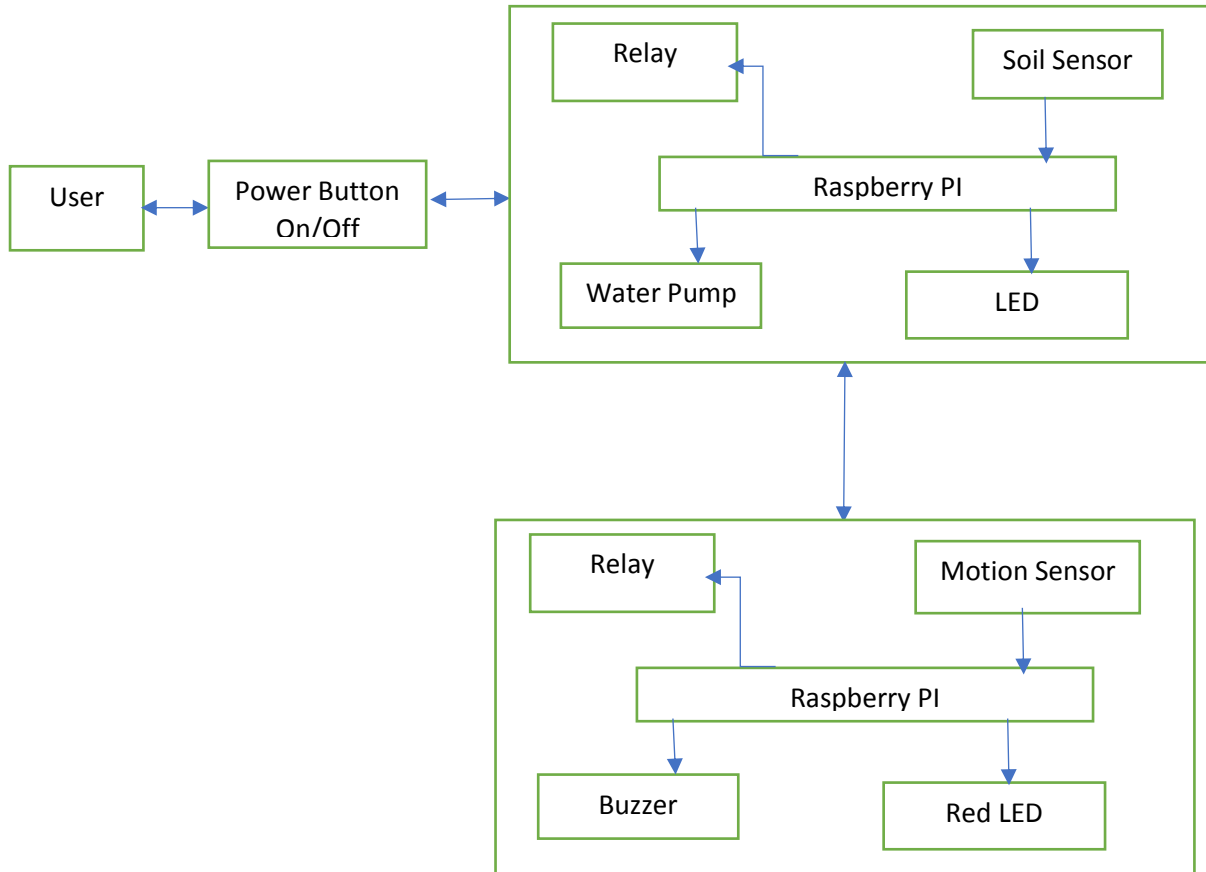
Circuit Diagram:



fritzing

Flowchart:



Block Diagram**References**

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Virtualizing the Trusted Platform Module

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ABSTRACT:

The Trusted Platform Module (TPM) is an anti-distraction tool that provides the basis for confidence in a secure computer system and remote authentication frameworks. In this paper, we briefly discuss TPM structures, functionality and services. This highlights the important role that the computer ecosystem plays in architectural design decisions related to the basis of trust in the construction of a trusted platform. When developing and researching new trusted computer technologies, the right tools to investigate their behavior and evaluate their performance are very important. In this paper, we introduce Unix's efficient and portable TPM emulator. Our emulator empowers not only the use of flexible and inexpensive beds and simulations but, moreover, provides trusted programmers a powerful tool for diagnosing and eliminating error that can be used for educational purposes. Due to its versatility and interoperability, the TPM module works in a variety of platforms and is compatible with the most suitable software packages and workspaces.

1. INTRODUCTION:

In the real world, lumbering elephants are exposed by the aggression of speeding midgets that goes with it. In the computer world, to establish trust in a distributed environment nature also follows the same speculation. The concept of a trusted platform based on the existence of a reliable and trustworthy tool that provides evidence of the given system status. How this evidence is interpreted depends on the requesting business. Trusting in this context can be defined as the expectation of the state of the system is as it is considered secure. This description requires an honest person as well a trustworthy business called the Trusted Platform Module (TPM) to provide trust evidence about the status of the system. Therefore, TPM is a reporting agent (witness) and not the inspector or enforcer of security policies. It gives the origin of reliance on which the interviewer relied on to ensure the current state of the system. TPM enables remote witnessing by digitally signing cryptographic hashes of software components. Realization of TPM is necessary in order for its power to be available to all virtual machines operating in the platform. Each virtual machine that needs TPM functionality should be made to feel like it has access to its own private TPM, although there may be more virtual machines than TPM portable systems in the system (usually there is one TPM for each platform). It is therefore necessary to create a number of virtual TPM scenarios, each of which faithfully mimics the functions of TPM hardware.

WHAT IS TPM AND WHAT IS ITS USE?

In basic terms, TPM (Trusted Platform Module) is a hardware chip that is responsible for protecting your PC from ransomware and any other form of hacking and malware. A cryptoprocessor that holds the keys to sensitive information, including your PC PIN or password, Windows Hello verification data, BitLocker encryption keys, important security keys, and more. As it is a hardware-based module,

a malware program cannot use it in standard software. Thus, the TPM chip becomes a high "root of trust", based on the hardware the OS can always rely on. To provide a similar example in the Android world, Google Pixel



phones come with a Titan M security chip that verifies firmware and checks for crashes before launching the device. In addition, the Titan M chip also protects your payment information, lock screen code, and other sensitive information. Samsung also added a unique Knox chip that enables hardware-based authentication of passwords, payments, confidential files, etc. All of this shows that hardware-based protection is the way to go, and Microsoft is well on its way to implementing the TPM Windows 11 requirement.

WHY IS TPM ESSENTIAL FOR WINDOWS 11?

There is no denying that Windows computers are a favorite of hackers and complex attackers. Mainly because of how easy it is to install applications from the web or automatically create text on Windows that eventually infects the entire system. Remote killings are another popular way for hackers to exploit an compromised PC. Gone are the days when low-risk germs blocked the Task Manager, and you would have to use an antiseptic system to fix things again. According to Microsoft, 83% of business attacks experienced in the last two years were “firmware attacks.” Firmware attacks mean exploiting the motherboard firmware itself, controlling hardware components, modifying startup process, and making code injection an easy task. The main purpose of the firmware attack is to steal sensitive information such as Windows Hello fingerprints/ facial data, bank details, Microsoft details, encryption keys, among other things. The threat of firmware attacks is very high. Therefore, TPM is required to protect your sensitive information in Windows 11. Attacks have become so complex that even TPM has failed to protect cryptographic keys against the latest Specter and Meltdown threats. It is therefore natural for Microsoft to create a secure, hardware-based authentication system so that users can stay on the safe side as we move forward.

WHICH PROCESSORS HAVE BUILT-IN TPM SUPPORT?

The TPM module usually comes with a built-in CPU, but on custom PCs, you'll find a TPM header on the motherboard where you can attach a compatible TPM module. At least since 2014, almost all processors came with a TPM module on board. Intel began to integrate TPM into its chips with the formulation of Haswell (2013, 4th-Gen) without the K series, which acquired the Trusted Platform Module integrated with 6th-Gen (2015). So I can imagine that, Intel-powered Windows PCs after 2014 have support for TPM 1.2 or 2.0. You need to enable it in the BIOS / UEFI menu. To give you an example, I have an Intel i5 6th-gen processor, and TPM 2.0 is available on my PC. I should have just enabled it from the BIOS. And if you wonder, do AMD processors also support TPM? However, the answer is yes. The TPM security chip is directly integrated into the CPU from Ryzen 2500 (2017)

onwards. Below, you can find steps on how to turn on TPM on your Windows 10 PC.

TPM KEYS.

TCG keys can be classified as signing or final keys. Other key types defined by TCG are the keys to Platform, Identity, Binding, General and Legacy (Trusted Computing Group, 2007).

Signing keys can be classified as keys for general purpose and asymmetric in nature. Application data and messages can be signed by TPM using the signature keys. Signing keys can be moved between TPM devices based on existing limits. Storage keys are asymmetric keys and are mainly used to encrypt data with other keys and folding keys. Authentication ID (AIK) keys are used to sign TPM-related data as PCR register values. AIK signs keys that can be exported. Authorization Key (EK) is used to decrypt authorization information and private messages created by AIK. EK is not used for encryption or signing and cannot be exported. Merge keys (equal keys) help to encrypt data on a single platform and move it from one encoder to a different location. The die keys can be imported without TPM and used for signing and encrypting data. Verification keys are responsible for protecting TPM-related transit times and are similar in nature.

Authentication Key (EK) in TPM plays an important role in maintaining system security. TPM uses the secret key EK to generate some keys locked in a particular EK. EK should be protected and protected from exposure. A 160-bit AIK verification value is required to use AIK with TPM (Sparks, 2007). The parent key used to generate other keys must be pre-downloaded and approved by users before TPM can load all other keys. EK is different from TPM and is embedded within a stable static memory (Angela, Renu Mary, & Vinodh Edwards, 2013). Public EK is used to create AIK certificates during the data encryption process within TPM. EK private key pair is not touched when generating signatures. Many AIKs can be stored within TPM to ensure anonymity between various service providers who need proof of identity. AIK keys should be stored in a secure external storage area (excluding TPM) to enable them to persist. AIKs can be loaded into flexible memory in TPM when used.

TPM has a Storage Root key that you persist. Keys are permanently stored in TPM due to limited storage space. A brief description of the process involved in key generation, encryption, and decryption in TPM is described below (Osborn & Challener, 2013). The new RSA key is generated by TPM when the key creation request is initiated by the software. TPM adds value to the RSA key, adds authorization data and data is encrypted using the public root Root Key Storage and sends the encrypted “bridge” to the requested software. The request is sent for the key to be downloaded from the blob repository when requested by the software program. TPM uses the Storage Root Key to clear encryption and verify the amount of credentials and password before uploading the key to the TPM memory. This uploaded key is called a “parent” and can be used to create the next key that creates the most important categories.

KEY FEATURES OF TPM.

- Turnkey solution: TPM incorporates integrated, secure and secure cryptographic key storage, encryption, and authentication information.
- Full TCG Compliance: According to TCG, applications based on reliable computer infrastructure demonstrate high security governance and risk management.

- Hardware security: TPM includes a random number hardware generator for high quality, effective protection, and a variety of interference detection and response circuits.
- High performance: TPM cryptographic accelerator can calculate RSA 2048-bit signature in 200 ms.
- Energy saving: TPM supports SIRQ Disruption and CLKRUN to allow the installation of energy-saving clocks on laptops.
- Software support: BIOS and hardware drivers are available for both Windows® and Linux® applications; third party system and application software are also available
- Two interactive locations: There is a 33 MHz LPC interface for PC integration and a 2 wireless interface for non-PC and embedded computer systems.

ADVANTAGES OF TPM:

- The main and most important benefit of TPM is that it protects confidential information.
- Provides authentication features for both software and hardware.
- Security is enhanced with this asset because it does not depend on a software-based application.
- If you want to use TPM on mobile phones, you can encrypt all your phone's hard drive.
- Now, if you are thinking about how to share this data with your peers or server. Then you can use the time certificate.

DISADVANTAGES OF TPM:

Contrary to the benefits of TPM, there are also many disadvantages as follows:

- The worst is the danger of the bug.
- TPM does not protect the system from cold boot attacks.
- TPM simply provides protection against system theft. In contrast, it does not consider online threats and system attacks or stored information.
- Its operating process is very long, as its tools use the key finders until the right key is activated.
- Other studies also show that, while restarting the system. TPM returns the encryption key while the system is connected to an external drive. At that point, the hacker can easily remove the disk write.
- In addition, it sometimes indicates a problem in connecting or using the appropriate software.

2. CONCLUSION

TPM supports hardware and software to protect confidential data. Provides a solution for various data encryption and security issues. However, you should also be aware that the Trusted Platform Module is not universally accepted. Some countries have restricted the use of TPM for example China. TPM adds hardware-based security benefits to Windows. When installed on hardware that integrates with TPM, Windows brings significantly improved security benefits. Microsoft and other industry partners continue to develop TPM-related international standards and acquire additional applications that they use to deliver tangible benefits to customers. Microsoft has included support for many TPM features in its Windows IoT Core version of Windows IoT Core. IoT devices may be used in virtually unprotected environments and connected to cloud services such as Azure IoT Hub management can use TPM in new ways to address their emerging security needs.

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Smart Parking Allocation of Vehicles using Sensors and Wireless Technology

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Abstract:

The rapidly growing population of India is creating many problems in the cities, traffic congestion and vehicle parking is considered as one of the major issues faced by the people. As the numbers of vehicles on road are increasing, parking problems are becoming more prominent. People face problems of space availability, searching time and waiting time in public places like hospitals, railway stations, colleges, shopping malls etc. Finding a parking space especially during the office hours is difficult for drivers. The difficulty arises from not knowing the available space at that time and even if it is known, many places will have very limited parking space which causes serious traffic congestion.

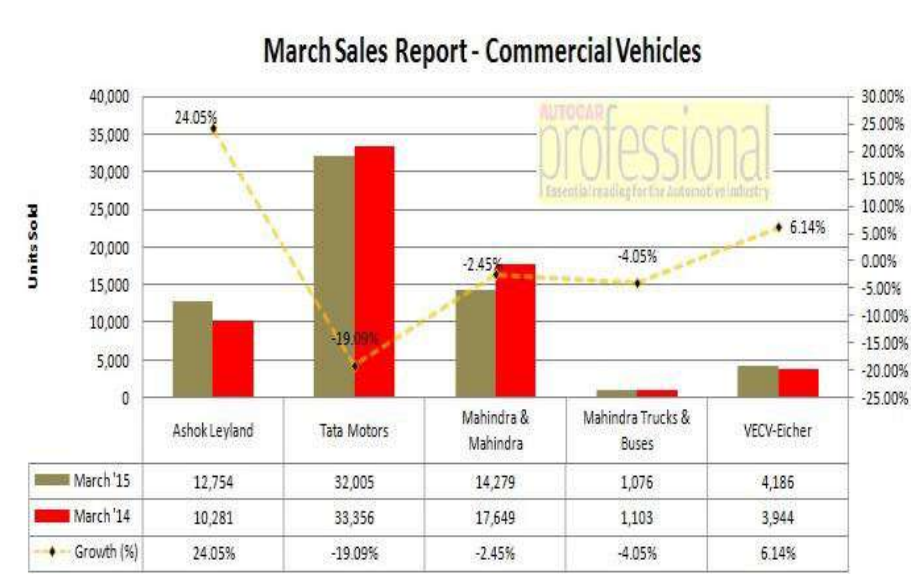
In this paper, we implement the prototype of smart parking system that allow drivers to find and reserve the vacant parking spaces. Smart parking system will use various sensors, wireless communication technology, to solve these issues. It will generate parking details such as available slot, direction, duration, billing details, and revenue etc. The drivers are allowed to access this dynamic parking system in their personal communication device or with the help of GSM, short messages can be sent in their cell phones. This system will save driver's time and it will also minimize the wastage of fuel. This will allow the parking authority to monitor the parking space and enhance the parking management.

Keywords: *Parking area, sensors, controller, password, entry and exit*

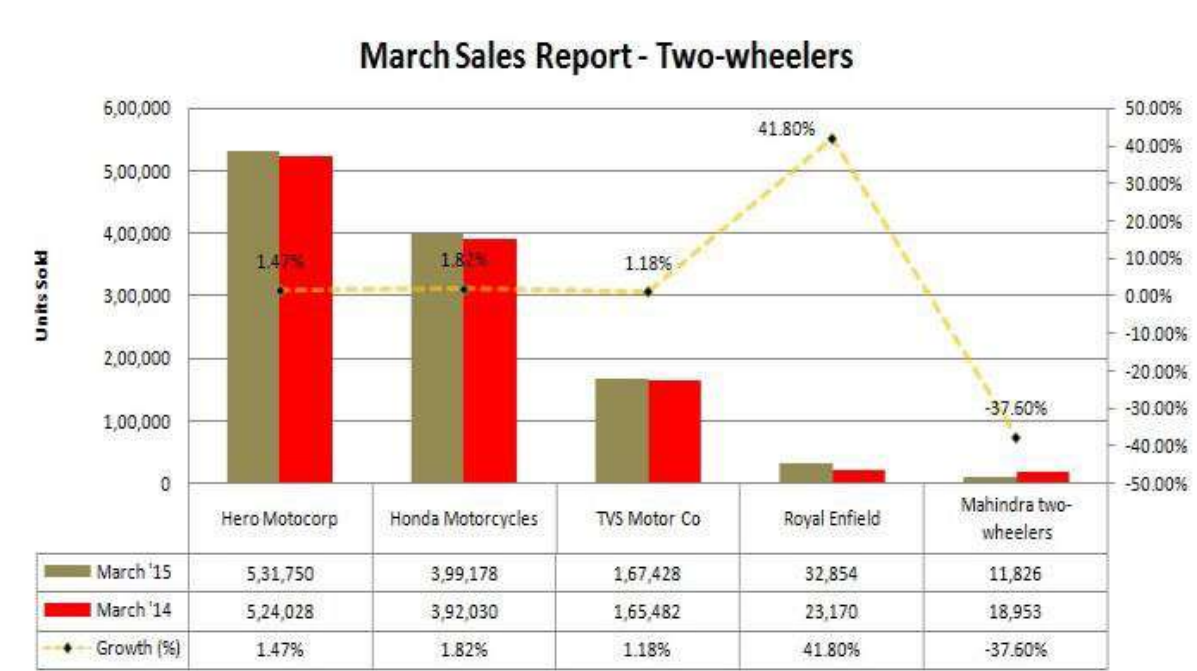
1.Introduction

The rapidly growing population of India is creating many problems in the cities, traffic congestion and vehicle parking is considered as one of the major issues faced by the people. As the numbers of vehicles on road are increasing, parking problems are becoming more prominent, Li et al (2004).

Graph given below shows the rate at which the vehicles have been purchased.



Source:<http://www.autocarpro.in/analysis-sales/india-sales-analysis-march-2015-automakers-fy2014-happy-note-8107>

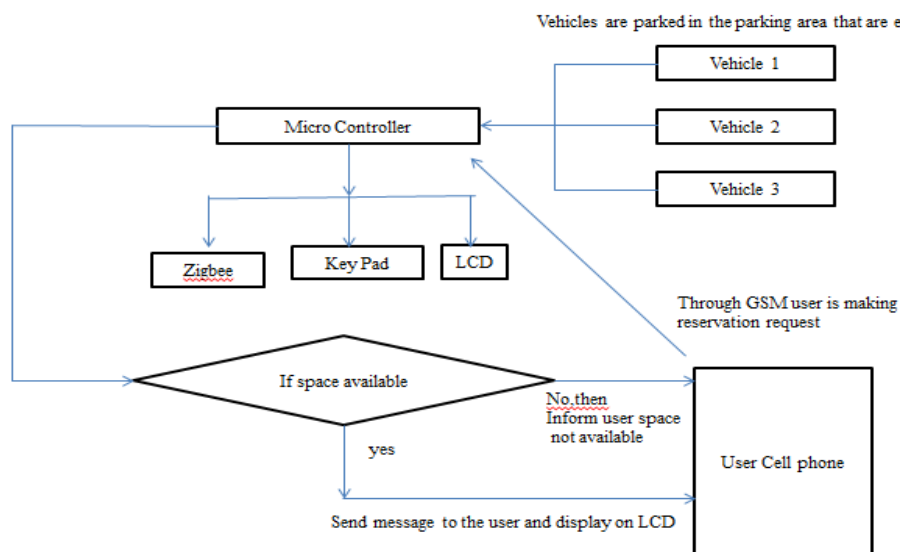


Source:<http://www.autocarpro.in/analysis-sales/india-sales-analysis-march-2015-automakers-fy2014-happy-note-8107#sthash.GEGY3Cfn.dpuf>

A smart parking allocation will provide a solution for these issues. The proposed works by providing entry and exit password securities, and the system will be very much cost effective Greunen et al (2003).

The diagram shows that many cars are parked in the parking lot, these are all sensed by the sensors and sensor in turn is connected to the microcontroller. Microcontroller is connected to the barrier gate. It is also connected to the zigbee, keypad and LCD. When the vehicle arrives at the entrance of the barrier gate, it will sense and sends the information to the LCD indicating the arrival of the vehicle which is waiting to park. User’s mobile can get the details about the parking status through the GSM. GSM in turn will send the information to the CPU and the LCD. Anuja et al (2003)

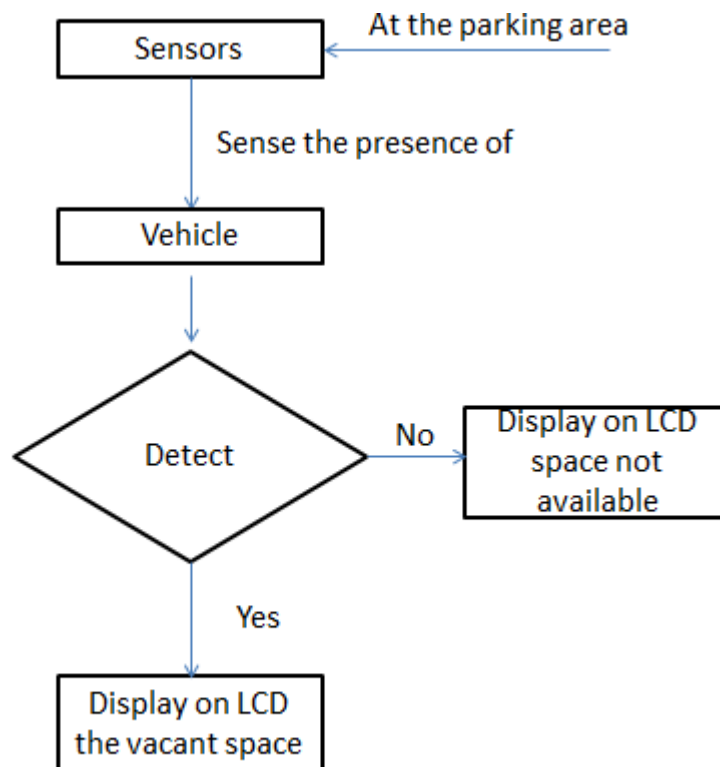
Diagram



3. Proposed Model

3.1 Identification of available space in the Parking Area

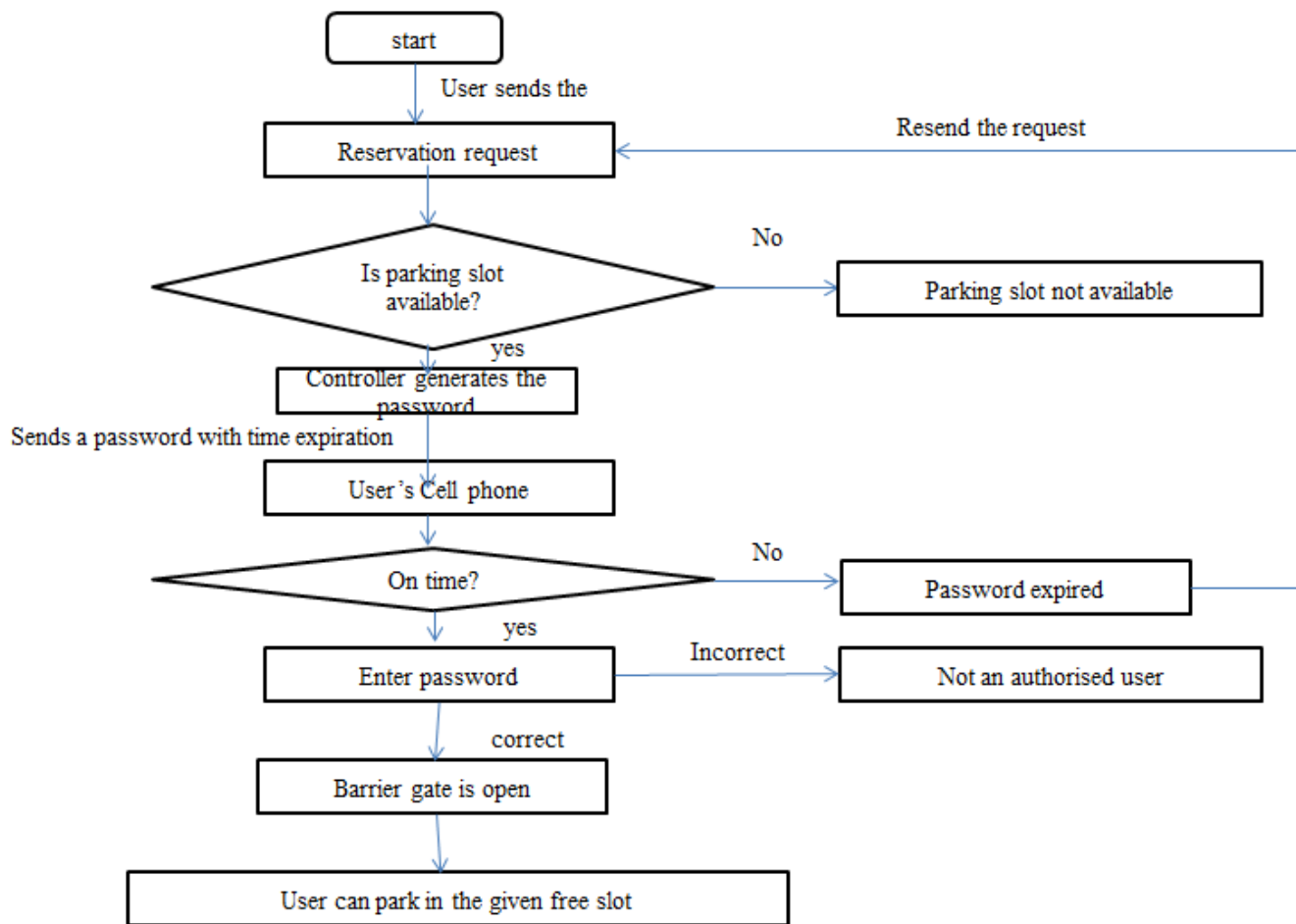
The parking area is provided with sensors which will sense the presence of vehicles in the parking area continuously entire day. Any detection of vehicle in the parking area, will send signal to the microcontroller to which it is communicated. The microcontroller will in turn send the status information to the Zigbee node which is also interfaced with the microcontroller, which in turn is interfaced with a system at the entrance of the parking gate. Then the parking area status is updated in the database system. A display device is provided at the entrance of the parking gate which helps the users to identify whether the parking slot is available or not. Pola et al (2019).

Diagram**3.2 Reservation Module**

When the user wants to reserve a parking area in advance, user will send an SMS through his cell phone. When the system receives the SMS from the user, it will start to check its database whether any vacancy is there. If the parking area is available from the database, then that particular area code will be given back along with the entry password to the user's cell phone with a one-time password of few seconds' validity Megha et al(2019).

After receiving the password, user will reach the parking gate and will prompt to enter the password within the stipulated time. If the password is correct and entered properly then the barrier gate will be open and the user is allowed to access the parking area and will park its vehicle at the respective slot allocated to him. at the parking slot there will be a sensor and camera that will provide security and monitor the vehicle. if the password is not entered in that time slot, then the password will be expired. And user will get an alert message stating the password is expired for the reservation slot.(Kayashta et al 2014).

Diagram



3.3 Security Module

After the parking of the vehicle, the database is updated with the user’s information such as the user name , vehicle number, parking slot code and user’s mobile number. The sensor placed in that area will continuously monitor the presence of vehicle. If the vehicle is taken out from the parking slot then the sensor will send the signal to the controller and the controller will in turn send the signal to the system .The system will immediately generate an exit password and send it to the user’s cell phone. User will type the exit password and is allowed to leave and barrier gate will be opened.

This security module also takes care If the vehicle is taken out from the parking slot by an unauthorized person, sensors placed at the parking slot will sense it and sends the exit password to the user’s cell phone and user will come to know that some unauthorized person is trying to access his/her vehicle as well as the barrier gate will not open until correct exit password is entered which is actually known to the user.

Thus, vehicle theft can be protected at the parking areas such as malls, hospitals etc.(Vaibhav Et al , 2016)

4. CONCLUSION

This system will work better in this smart generation with smart parking system, as it reduces the traffic and congestion and also provides higher level of security for the vehicles parked in the respective parking slot. Security is maintained by entry and exit password which the user is only allowed to enter. This system considered to be of less cost and highly secure.

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An IoT Based Intelligent Braking System Using Arduino Uno

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ABSTRACT

This paper presents an Intelligent braking system for forward collision avoidance. A large number of precious lives are lost due to road traffic accident every day. The common reason are driver's mistakes. This system consist of ultrasonic sensors namely ultrasonic wave emitter and ultrasonic wave receiver. The main target of the Intelligent braking system is that , cars should automatically brake when the sensors sense the obstacles. This is a technology for automobiles to sense an imminent forward collision with another vehicle or an obstacles and to brake the car accordingly . Thus this new system is designed to solve the problem where drivers may not be able to brake manually or exactly at the required time, but the vehicle can stop automatically by sensing the obstacles to avoid an accident.

KEYWORDS:- *Ultrasonic Sensor, Arduino Uno, Motor driver L298N , Jumping wires, C++*

1. INTRODUCTION

The recent development in the new generation of sensor rich, distributed autonomous control technology has had a profound effect on the design of modern automotive vehicles. The number of vehicles is increasing day-by-day and proportionally the number of accident are also increasing. These accidents are mostly caused by the delay of the driver to hit the brake. To prevent the accident caused by the delay. To prevent the accident caused by the delay, intelligent braking system can be used in the automobiles. This is a technology for automobiles to sense an imminent forward collision with another vehicle or an obstacles and to brake the car accordingly.

The reason to develop this project is to save more lives. In India approximately 1.2 lakh people died in road accident in which the major reason was brake failure. The ultrasonic sensor will sense the obstacles. So, Intelligent braking system is much useful for avoiding the accident.

2. OBJECTIVE

- To develop an Intelligent braking system for Automobiles.
- To avoid the collision of one vehicle with another vehicles.
- Saving the lives of many people by avoiding the road accident.
- The advantage offered by automatic braking system include a lower risk of collision and enhanced stopping power.

PURPOSE

The purpose of this project is to design the automatic braking system in order to avoid the accident. To develop a safety vehicle braking system using ultrasonic sensor and to design a vehicle with less human attention to the driving. This project is necessary to be attached to every vehicle. Mainly it is used when drive the vehicle in night time. Mostly the accident occurred in the night time due to long travel the driver may get tired. So the driver may hit the front side vehicle. By using this project the vehicle is stopped by automatic braking system. So we can avoid the accident.

SCOPE

The scope of this project is develop an a ultrasonic sensor to detect the obstacles and to avoid the accident. By using this project the vehicle is stopped by automatic braking system. So we can avoid the accident. Vehicle can automatically brake due to obstacles when the sensor sense the obstacles the focus of this object is designing and automatically braking system that can help us control the braking system of a vehicle automatically braking system. The auto braking system will stop the vehicle and avoid the accident.

The importance of this project can be figure out with the help of following statistics that

- Only 40% of Driver applied break in accidental situations.
- There were casualties about 2.6 millions last year due to front end vehicle collision
- Laboratory test results has proved the about of 47% of the collision impact can be reduced by automatically application of the break force.

PROBLEM DEFINITION

When compared with the olden days life span of human life is reduced. Death rate due to accidents is drastically increased because vehicle usage is increasing day by day. Due to break failure so many accident are occurring so when we control the brake by automation we can reduce the effect of accident. To overcome this issue we have come up with the solution knows as Intelligent Braking system. The first demonstration of forward collision avoidance was performed in 1995 by a team of scientist and engineers at huge research laboratories Malibu, California. Auto braking system or Intelligent braking system is a technology for automobiles to sense and avoid imminent collision with another vehicle, person or obstacles by braking without any driver input.

Auto braking system or Intelligent braking system are designed to develop a new system that can solve this problem where drivers sometimes may not brake manually but the vehicle can stop automatically due to obstacles. Intelligent braking system is given higher importance concerning safety issue and in particular active safety issue. It is advanced system specifically designed to either prevent possible collision or reduce speed of moving vehicle prior to collision with another.

PRELIMINARY PRODUCT DESCRIPTION

ARDUINO UNO – The Arduino Uno is a micro-controller board that can integrate into a variety of electronic project it contain everything needed to support the microcontroller simply connect it to a computer with a micro USB cable to get started.



ULTRASONIC SENSOR –

Ultrasonic Sensor are device that generates or sense ultrasound Energy. Ultrasonic sensor are divided into 3 parts Transmitter, Receiver, Transreceiver.



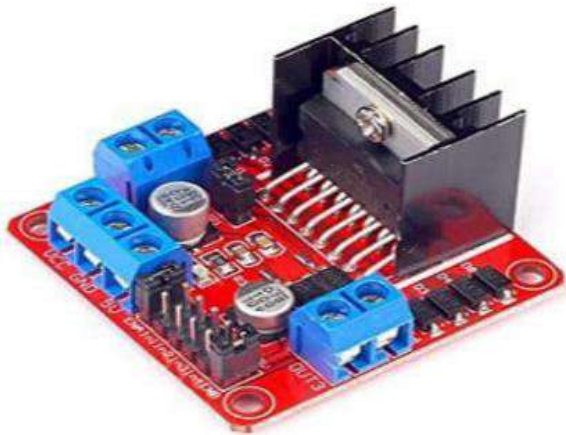
DC MOTOR-

DC motor is any of a class of rotary electrical motor that convert direct current electrical energy into mechanical energy.

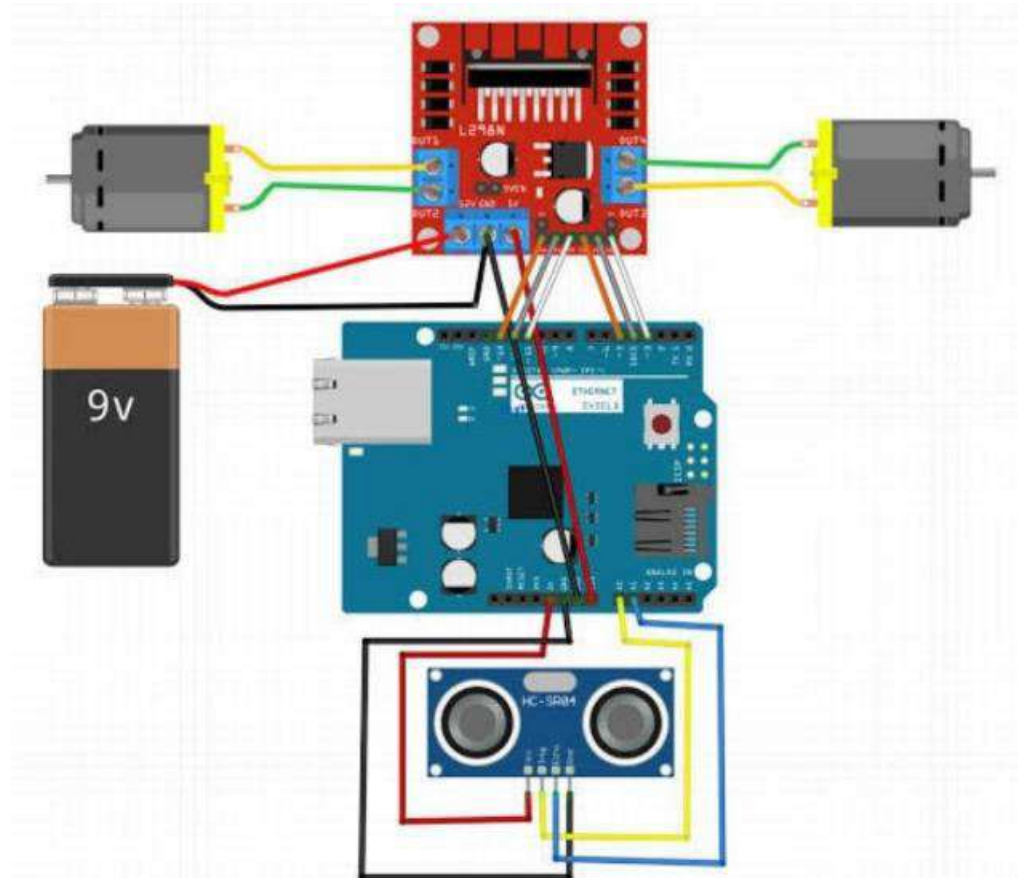


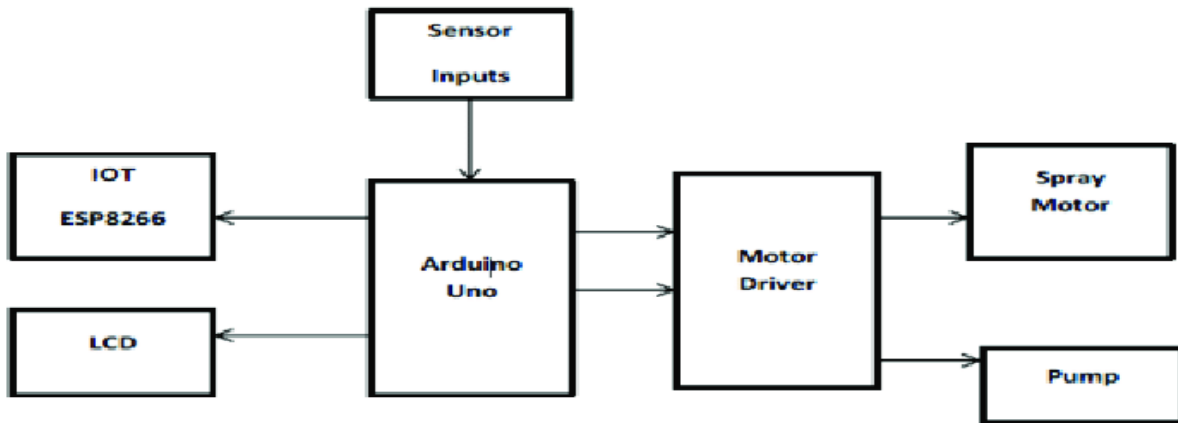
MOTOR DRIVER-

This L298N motor driver is high power motor driver module for driving dc and stepper motors. This module consist of stepper motor driver IC and A 78M05 Regulators.



CIRCUIT DIAGRAM:



BLOCK DIAGRAM :**REFERENCE :**

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Research on Methodologies for Information Extraction

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Abstract

The new era of Information has brought a lot of new opportunities in the domain of automation. As lots of new data in various formats are being stored and then mined for useful insights one such format which has created the deepest impact in overall automation domain is mining textual data to get the important stuff out of it and then use that for various different analysis and decision making to various levels of automation. In this paper various methods for Information Extraction will be discussed and one of the methods in conclusion will be chosen for implementation.

Keywords: *Information Extraction, Data Mining, Automation, NLP, Information Processing.*

1. Introduction

Information Extraction is one of the main domains of research in Artificial Intelligence. Various methodologies that use syntactical properties of the text combined with Machine Learning has been implemented. Two types of such methodologies that have been discussed here are Rule Based Information Extraction Methods and Classification based Extraction Methods. Rule based Information Extraction methods basically use syntactical rules to extract needful Information whereas Classification based Extraction methods try to implement different techniques to classify important and non-important data from the given text.

2. Literature Review:

NLP based Information Extraction methods have been there since 19's and various works have been performed as well. There are several successful methodologies that is being used today in various text related applications such as AutoSlog (Riloff, 1993) that uses a sentence parser to parse the natural language, Crystal (Soderland, 1995), (LP)2 (Ciravegna, 2001), etc.

3. Objective:

Objective of doing this research paper was to find a method or a combination of them from, a whole library of methods, that can be implemented in our project which requires a method that is able to extract information from a given sentence using as less data as possible to get trained, with capabilities of domain specific learning and information extraction.

4. Research Methodology:

This paper is a cumulative study of various methods based on NLP techniques to Extract Information which has been taken from various research papers published by the experts of the domain. Rigorous study has been performed to analyse the referenced papers and a comparative method is been used to identify the method that suits our project needs. This paper in a nutshell provides the comparative study of two types of NLP based Information Extraction Methods which are:

- 1) Rule Learning Based Extraction Method
- 2) Classification based extraction Method

There are other ways as well such as Sequential Based Extraction Method which are mostly for generalising purpose which does not fulfil the domain specific requirement of our project thus being the reason of not being one of the models to study.

Rule Learning Based Extraction Method:

For Rule Learning Based Extraction Method, we went through the paper of one of the domain experts which is Information Extraction: Methodologies and Applications (Tang et al) which provides in detail explanation with sub topics and generalized idea of the Rule Learning Based Extraction Method. Below we provide a brief understanding of the topic:

In general, the methods can be grouped into three categories: dictionary-based method, rule-based method, and wrapper induction.

Rule Based System the rule-based method uses several general rules instead of dictionary to extract information from text. Two main rule learning algorithms of these systems are: bottom-up method which learns rules from special cases to general ones, and top-down method which learns rules from general cases to special ones. There are proposed many algorithms, such as (LP)² (Ciravegna, 2001), iASA (Tang, 2005b)

It learns two types of rules that respectively identify the start boundary and the end boundary of the text to be extracted. The learning is performed from the examples in a user-defined corpus (training data set). Training is performed in two steps: initially a set of tagging rules is learned; then additional rules are induced to correct mistakes and imprecision in extraction.

Dictionary based method

Traditional information extraction systems first construct a pattern (template) dictionary, and then use the dictionary to extract needed information from the new untagged text. These extraction systems are called as dictionary-based systems (also called pattern-based systems) including: AutoSlog and autoslog-ts.

The key point in the systems is how to learn the dictionary of patterns that can be used to identify the relevant information from a text. Each AutoSlog concept node has a conceptual anchor that activates it and a linguistic pattern, which, together with a set of enabling conditions, guarantees its applicability. AutoSlog needs to parse the natural language sentence using a linguistic parser. The parser is used to generate syntax elements of a sentence (such as subject, verb, preposition phrase). Then the output syntax elements are matched against the linguistic pattern and fire the best matched pattern as the result pattern to construct a pattern dictionary.

Classification Based Extraction Methods

The basic idea is to present information extraction problem as that of the classification.

Boundary detection using classification model

This system consists of two distinct phases: learning and extracting. In the learning phase our system uses a set of labelled documents to generate models which we can use for future predictions. The extraction phase takes the learned models and applies them to new unlabelled documents using the learned models to generate extractions. This model aims to generate the boundaries (start boundary and end boundary) for the special information.

For IE to text the whole document is converted into tokens such as words or sentences. Then two classifiers are learned one for start and one for the end boundary in positive and negative fashion where the start classifier marks positive the start boundaries and negative to the other whereas the second classifier does the vice-versa.

There have been many modifications to the above given methodology to overcome the problems related to it, which are discussed in the conclusion section below.

5. CONCLUSION

This section of the paper discusses the selection of the final model for the project based on the pros and cons as per the project requirements of the models.

Rule Learning Based Model:

Rule Learning Based Model as described above is one of the models that can be used to Extract Information based on a dictionary that the model itself creates using a syntax parser. The benefit of such model is that if the extracted dictionary pattern is of good differentiators, then the model will work best, but if the dictionary gets affected then the whole model will have to suffer. Building a good syntax parser hence becomes much more important than Extracting Information.

Classification Based Extraction Method:

Classification Based Extraction Method as discussed above is an extraction method which classifies information with other data using boundary classification. This model works well when the dataset is small but if data becomes large then the probability of the identified boundary to be right becomes very low, which shows that to make this model work we will require a model with high precision otherwise we would be stuck with just false positives. There are solutions to this problem such as, use of two-level boundary and others. As classification-based methods were aiming towards a more general domain of natural language processing, which basically becomes much bigger than our project domain. On the other hand, Rule Learning Based Extraction is what seems feasible seeing the projects needs of being domain specific and low data training capacity. So, we decided to go with the Rule Learning based Extraction keeping our window open definitely for bootstrapping in future as well.

References:

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2. AutoSlog (Riloff, 1993)



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A Study on Performance Analysis of Nifty Index Mutual Funds Industry 4.0

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ABSTRACT

A mutual fund is a professionally managed investment fund that pools together the savings of a number of investors who shares the common financial goals. These investors may be retail or institutional in nature. It offers small or individual investors access to professionally managed portfolios of equities, bonds and other securities. It is equally useful for the HNIs (High Net-worth Individuals) who wish to park their money in relatively riskier instrument and thereby getting a 3 opportunity to get higher returns. Some types of mutual funds are very much useful for the corporate who wish to park their large amount of money for a short period of time in an instrument where they can get an opportunity of getting handsome rate of returns. The paper is the study of the performance of Nifty Index fund. This is analysed empirically since the period of 2015 – 2020. The main objective of this research is to evaluate the performance of Nifty Index funds. The study examined three parameters such as active returns, tracking error, Risk Measures. In this paper the data will be collected from the Primary as well as secondary sources.

Keywords: *Financial Performance, Index Fund, Risk Adjusted Return, Tracking error.*

1. INTRODUCTION

Mutual Fund is a tool of investment for the investors who have a common goal of investment. It has been a part of the capital market of the economy. Almost every economy in the world which is having its own capital market has the mutual fund industry. The name MUTUAL FUND indicates itself that the people who MUTUALLY agree to carry out a common activity i.e. investment with a common goal by creating a pool of investment which is called as FUND.

A mutual fund is a managed group of owned securities of several corporations. These corporations receive profits on the shares that they hold and realize capital gains or losses on their securities traded. Investors purchase units in the mutual funds as if it was an individual security. After paying operating costs, the earnings (dividends, capital gains or losses) of the mutual fund are distributed to the investors, in proportion to the amount of money invested.

Mutual Funds are useful as a tool of investment for various classes of the society. For a retail investor, mutual funds provide a very simple way of investment through which they can invest in stock market and other investment options. A retail investor who is not aware about the workings of stock market but still is interested in the investment in stock market can start his investments through mutual funds. During the last few years, mutual funds have emerged as the instrument of investment and is considered for the investment planning for the post-retirement investment.

An Index Fund is a form of mutual fund that invests in a specific set of stocks of an index like BSE Sensex or NSE NIFTY. A portfolio of an index fund built to inform or track the additives of a market index and it offers massive marketplace exposure low portfolio turnover and low operating expenses. These finances observe the unique standards or regulations such as Efficient tax management or reducing tracking error that stay in location, there may be no matter the country of the markets. The main advantage of index funds for investors lies in its cost. Since the mutual fund require only passive fund management, they are much cheaper than more actively managed fund in which portfolio managers make an effort to choose the right stocks.

Since index funds track a market index and are passively managed, they are less volatile than the actively managed equity funds. Hence, the risks are lower. During a market rally, index funds returns are good usually. However, it is usually recommended to switch your investments to actively managed funds during a market slump. Ideally, you should have a healthy mix of index funds and actively managed funds in your equity portfolio. Further, since the index funds endeavour to replicate the performance of the index, returns are similar to those of the index. However, one component that needs your attention is Tracking Error. Therefore, before investing in an index fund, you must look for one with the lowest tracking error.

2. LITERATURE REVIEW

Venkatapath Raju 40 has authored a book which explains in detail about the description about different types of products of mutual funds with their investment objectives. The book also tries to match the objectives of the mutual fund schemes with the investors' expectations from such schemes. The author has tried to match the expectations of the investors' expectations with the objectives of the mutual fund schemes so that the investors get a proper scheme for investment. A detailed explanation of various types of mutual funds schemes explains the benefits and limitations so that the investor can select the proper scheme. The book also attempts to provide information to assist to investor to assess their risk return profile and accordingly choose the right product. One unique thing about the book is that it analyses the factors which motivates the mutual fund investors to take their investment decisions.

Muralidhar Prasad Ayaluru (2016) evaluates the performance of mutual fund schemes. The study selected 10 open ended Equity mutual fund schemes which were offered by the Reliance Mutual Fund.

P. Krishna Prasanna (2012) studies the characteristics and growth pattern of all the 82 Exchange Traded schemes. The schemes are floated and traded on Indian Stock markets. The study measures the performance using DEA (Data Envelopment Analysis) method. The analysis reveals that the overseas fund of funds as well as the Gold funds were able to mobilize greater resources and were able to impress the investors.

S. Narend (2014) presents a comparative study of the performance of ETFs and index funds. The study has done empirically since the period of their respective initiation till July 2013. The study used three parameters for the analysis of the performance such as active returns, tracking error and Jensen's alpha. The analysis shows that ETFs are performing good compare to the index mutual funds.

M. Jayanthi, S. Malathy, T. Radhulya (2013), analyse the gold ETFs and compare the historical data of various gold ETFs in India. The study tracks the performance on daily, weekly, monthly, quarterly and yearly basis. The study showed that many of the gold ETFs currently available in the Indian market exhibit a large deviation from actual gold returns. This problem is more prominent in India than in developed markets.

Hayati and Haruman (2006) conducted a research about Comparison Analysis between the performance of Conventional and Islamic Mutual Funds as the Basis for Decision Making Knowledge for Investment in Indonesia Capital Market. Based on the results of the research's hypothesis testing related to differences between the rate of return and risk of mutual funds, it obtained significant results as follows: (a) There are differences in the level of results between equity funds, fixed income fund and 18 balanced fund (b) There is no difference between the rate of returns of sharia fixed income mutual funds and sharia balanced funds, (c) There are differences in the level of risks between equity funds, fixed income fund and balanced funds and (d) There is no difference in risks between sharia fixed income mutual funds and sharia balanced fund.

Ramadya and Isynuwardhana, (2012) conducted a research about The Differences of the Performance Equity Mutual Funds between Sharia and Conventional Mutual Funds, using with Sharpe, Treynor, and Jensen methods in year 2009-2010. The results showed that sharia mutual funds have better performance in Jensen and Treynor methods. While in Sharpe method, conventional mutual funds have better performance.

Saputra (2009) studied about different performances of sharia and conventional mutual funds, in equity, fixed income and balanced fund. From the 12 companies analysed, sharia mutual funds have better performance than the conventional one.

Febriyanto (2011) also studied about different performances of sharia and conventional equity mutual funds, using Treynor, Jensen, and Sharpe. The results showed that sharia mutual funds have better performance than conventional mutual funds, and sharia mutual fund performance do not differ significantly with conventional mutual funds.

OBJECTIVES OF THE STUDY

1. To evaluate the risk and return of Nifty Index Mutual Funds in India.
2. To study the performance of Nifty Index Mutual Funds.
3. To examine the tracking error and information ratio.

3. RESEARCH METHODOLOGY

This analysis is based on the performance of Nifty INDEX funds. The study selected five INDEX funds for the analysis of data such as IDBI Nifty Index Fund, UTI Nifty Index Fund, HDFC Index Fund - Nifty Plan, SBI Nifty Index Fund, Tata Index Fund-Nifty Plan (G). The research problem is solved by analyzing the data in a systematic way. The main source of the information is secondary data which is suitable for the purpose of the study. The secondary data were collected from the financial report of funds. The study examines the excess return, active return, risk adjusted returns, Sharpe ratio and Treynor ratio. The period of the study was considered from 2015 to 2020.

TABLE I NIFTY INDEX FUNDS

Index fund	Benchmark
IDBI Nifty Index Fund	Nifty Sensex
UTI Nifty Index Fund	Nifty Sensex
HDFC Index Fund - Nifty Plan	Nifty Sensex
SBI Nifty Index Fund	Nifty Sensex
Tata Index Fund-Nifty Plan(G)	Nifty Sensex

4. RESULT & ANALYSIS

The study has taken five open-ended Index fund to analyze the performance which were launched during the period of 2015-2020. The investment objective of the schemes is to provide returns before expenses that closely correspond to the total returns of the S&P CNX Nifty subject, to tracking errors. The performance of Index funds was measured by analysing their active returns and excess returns. The analysis showed that the Index fund considered in this study the better performance. Here (in table II) shows the characteristics of five Index funds given below

S. No.	Index Funds	Underlyin g Index	Launch date	Fund Type	AUM AS ON Dec, 2017(In crores)	Minimum Investment (In INR)
1	IDBI Nifty Index Fund	NIFTY	25-Jun-15	Open-ended	218	5,000
2	UTI Nifty Index Fund	NIFTY	6-Mar-05	Open-ended	716	5,000
3	HDFC Index Fund - Nifty Plan	NIFTY	17-Jul-07	Open-ended	312	5,000
4	SBI Nifty Index Fund	NIFTY	4-Feb-07	Open-ended	239	5,000
5	Tata Index Fund-Nifty Plan(G)	NIFTY	25-Feb-08	Open-ended	6.58	5,000

Excess returns are investment returns from a security or portfolio that exceeds the riskless rate on a security generally perceived to be risk free and Active return is the percentage gain or loss of an investment relative to the investment's benchmark.

TABLE III IDBI NIFTY INDEX FUND– ANNUALIZED RETURNS
(2015 - 2020)

Year	Nifty sensex	Rm in %	NAV	Rp in %	Rf	Excess return(Rp-Rf)	Active return (Rp- Rm)
2015	5410.56	1.70	10.10	0.14	8.03	-7.89	-1.56
2016	5908.09	9.20	11.17	10.65	8.85	1.80	1.46
2017	7453.50	26.16	13.93	24.65	8.22	16.43	-1.51
2018	8298.82	11.34	15.61	12.06	7.25	4.81	0.72
2019	8138.21	-1.94	15.14	-2.98	6.34	-9.32	-1.04
2020	9,661.42	18.72	17.80	17.54	6.42	11.12	-1.18

Table III shows the excess returns and active returns of IDBI Nifty index fund during the period of 2015-2020. The scheme got highest excess return 16.43% in the period of 2017 and highest active return 0.72 in the period of 2018. And the lowest excess return is -9.32 in the period of 2019, the lowest active return is -1.56 in the period of 2015.

TABLE IV UTI NIFTY INDEX FUND– ANNUALIZED RETURNS
(2015 - 2020)

Year	Nifty sensex	Rm in %	NAV	Rp in %	Rf	Excess return(Rp-Rf)	Active return (Rp-Rm)
2015	5410.56	1.70	33.31	0.31	8.03	-7.72	-1.40
2016	5908.09	9.20	36.85	10.64	8.85	1.79	1.45
2017	7453.50	26.16	46.06	24.99	8.22	16.77	-1.17
2018	8298.82	11.34	52.09	13.09	7.25	5.84	1.75
2019	8138.21	-1.94	51.36	-1.39	6.34	-7.73	0.55
2020	9,661.42	18.72	61.33	19.40	6.42	12.98	0.68

The table IV examined the excess returns and active returns for the UTI Nifty index fund during the period of 2015- 2020. The highest excess return is 16.77 in the period of 2017 and lowest excess return is -7.73 in the period of 2019, the highest active return is 1.75 in the period of 2018 and the lowest active return is -1.40 in the period of 2015.

TABLE V HDFC INDEX FUND NIFTY PLAN– ANNUALIZED RETURNS (2015 - 2020)

Year	Nifty sensex	Rm in %	NAV	Rp in %	Rf	Excess return(Rp-Rf)	Active return (Rp-Rm)
2015	5410.56	1.70	46.17	-0.16	8.03	-8.19	-1.86
2016	5908.09	9.20	51.16	10.80	8.85	1.95	1.60
2017	7453.50	26.16	64.26	25.61	8.22	17.39	-0.55
2018	8298.82	11.34	72.83	13.33	7.25	6.08	1.99
2019	8138.21	-1.94	71.78	-1.44	6.34	-7.78	0.49
2020	9,661.42	18.72	85.58	19.23	6.42	12.81	0.52

The table V analyzed the excess returns and active returns of HDFC index fund nifty plan during the period of 2015- 2020. Here the table shows highest excess return in the period of 2017 which is 17.39 and the lowest excess return in the period of 2015 which is -8.19, the highest active return in the period of 2018 which is 1.99 and lowest active return in the period of 2015 which is -1.86.

TABLE VI SBI NIFTY INDEX FUND– ANNUALIZED RETURNS
(2015 - 2020)

Year	Nifty sensex	Rm in %	NAV	Rp in %	Rf	Excess return(Rp-Rf)	Active return (Rp-Rm)
2015	5410.56	1.70	45.72	0.54	8.03	-7.49	-1.17
2016	5908.09	9.20	50.46	10.37	8.85	1.52	1.18
2017	7453.50	26.16	62.55	23.95	8.22	15.73	-2.20

2018	8298.82	11.34	69.98	11.88	7.25	4.63	0.54
2019	8138.21	-1.94	68.51	-2.10	6.34	-8.44	-0.16
2020	9,661.42	18.72	81.44	18.87	6.42	12.45	0.15

The table VI analyzed the returns performance of SBI nifty index fund during the period of 2015-2020. In this table the highest excess return is 15.73 in the period of 2017 and the lowest excess return is -8.44 in the period of 2019, the highest active return is 1.18 in the period of 2016 and the lowest return is -2.20 in the period of 2017.

TABLE VII TATA INDEX FUND NIFTY PLAN (G)– ANNUALIZED RETURNS (2015 - 2020)

Year	Nifty sensex	Rm in %	NAV	Rp in %	Rf	Excess return(Rp-Rf)	Active return (Rp-Rm)
2015	5410.56	1.70	32.00	0.73	8.03	-7.30	-0.97
2016	5908.09	9.20	35.35	10.47	8.85	1.62	1.27
2017	7453.50	26.16	43.88	24.13	8.22	15.91	-2.03
2018	8298.82	11.34	49.20	12.10	7.25	4.85	0.76
2019	8138.21	-1.94	48.16	-2.11	6.34	-8.45	-0.17
2020	9,661.42	18.72	57.11	18.59	6.42	12.17	-0.12

The table VII analyzed the returns performance of TATA index fund nifty plan(G) during the period of 2015-2020. In this table the highest excess return is 15.91 in the period of 2017 and the lowest excess return is -8.45 in the period of 2019, the highest active return is 1.27 in the period of 2016 and the lowest return is -2.03 in the period of 2017.

Funds	Alpha value	Beta value	Sharpe ratio	Treynor ratio
IDBI Nifty Index Fund	-0.51	1.00	0.28	2.83
UTI Nifty Index Fund	0.36	0.98	0.36	3.71
HDFC Index Fund - Nifty Plan	0.45	0.97	0.35	3.81
SBI Nifty Index Fund	-0.37	1.03	0.31	2.99
Tata Index Fund-Nifty Plan(G)	-0.31	1.03	0.32	3.04

TABLE VIII RISK ADJUSTED RETURNS

The study further analyzed the risk-adjusted returns of the index mutual funds using Jensen's alpha (Table 8), Sharpe ratio and Treynor ratio. The study reveals that the in the case IDBI alpha was negative which shows the mutual fund scheme is not able to beat the market. In the case of SBI nifty index fund and TATA nifty index fund, which was statistically irrelevant. Among those index funds that tracked the CNX Nifty index, the HDFC Index Fund was performed best r with an alpha of 0.45%, followed by the UTI Index nifty Fund with an alpha of 0.36. The analysis also showed that the beta value for all the funds, which indicates that the funds were closely correlated with their underlying index. The Sharpe ratio is positive in all the cases which are considered that the fund is acceptable. Treynor ratio also indicated the high positiveness that shows an investor has generated high returns.

TABLE IX TRACKING ERROR AND INFORMATION RATIO

Fund	Tracking Error	Information Ratio
IDBI Nifty Index Fund	1.28	-0.4
UTI Nifty Index Fund	1.32	0.24
HDFC Index Fund - Nifty Plan	1.41	0.26
SBI Nifty Index Fund	1.22	-0.23
Tata Index Fund-Nifty Plan(G)	1.19	-0.18

The tracking error also examined for the Index fund in relation to the underlying index Frino and Gallagher (2001) proposed various techniques for measuring the tracking errors. The most usually used approach of tracking error is the standard deviation of the difference between the returns of the benchmark index and index fund. The same method was adopted in the present study. Information ratio indicates the consistency of the fund manager in generating superior risk adjusted performance. A higher information ratio shows that fund manager has delivered consistent returns over a specified period.

Table IX indicates the tracking error of the index funds with respect to their underlying index. The study found the tracking error was positive and more than 1 in all the index fund which were examined in this study. The study revealed that tracking error were not much high of all the index funds. The table also shows the information ratios which were negative for IDBI nifty index fund, SBI nifty index fund and TATA nifty index fund. HDFC nifty index fund and UTI nifty index fund had a positive information ratio. So the information ratio shows that HDFC nifty index fund and UTI nifty index fund had a better portfolio.

5. CONCLUSION

An Index fund is mainly a passive Mutual Fund that allows investors to purchase a pool of securities in a single transaction. When an investor purchases a quantity of an index fund or ETF, it means that the investor is purchasing a share of a portfolio that contains the securities of the underlying index. Here the study has taken five nifty index fund (IDBI nifty index fund, UTI nifty index fund, HDFC nifty index fund, SBI nifty index fund, TATA nifty index fund) to evaluate the performance. The paper analyzed the performance of index mutual fund that tracked their underlying index, the CNX Nifty index. The study also evaluated Jensen's alpha for the index fund to know whether the fund managers are able to generate excess returns and the have a look at also found out Sharpe and treynor. The study revealed the tracking errors and information ratio of index funds.

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THE CAPITALMARKET OF INDIAOm Samant
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Professor Chitra More**ABSTRACT:**

In this paper we present a review of research done in the field of Indian capital markets during the fifteen years from 1977 to 1992. The research works included in the survey were identified by two search procedures. Firstly, we wrote to 118 Indian university departments and research institutions requesting information on the works done in this field in their department/institution.

Simultaneously, we searched through various Indian journals in our library, located books listed in the library catalogue and traced through the list of references provided in various research works. Considering the size, vintage and development of the Indian capital market, the total volume of research on it appears to be woefully modest - about 0.1 unit of work per institution per year! Moreover, many works are merely descriptive or prescriptive without rigorous analysis.

Certain areas such as arbitrage pricing theory, option pricing theory, agency theory, and signalling theory are virtually unresearched in the Indian context. Besides, very little theoretical work has been done by researchers in India. However, with improved availability of databases and computing resources, and with increasing global interest in Indian markets, we expect an explosion of work soon.

INTRODUCTION:

Capital Market is a commonly used term. Capital market is a market for both debt and equity securities in India. It is the market where business enterprises, including companies and governments, can raise long-term funds. In other words, it can be said that the capital market is a market where the money is provided to the borrowers for more than a year. The Indian capital market includes both the stock or the share market and the bonds market. Share or stock market

is the market where equities are traded, whereas the bond market is the market where debt securities are traded.

The Capital Market is regulated by Securities and Exchange Board of India (SEBI) or the U.S. Securities and Exchange Commission (SEC) that overlook the market in their jurisdiction ensuring that the investors are protected against fraud apart from other duties. The regulatory bodies lay down specific rules and regulations that must be adhered to safeguard the investors' interest.

Categorization of the Capital Market Based on the types of securities, the capital market is divided into two parts: The stock Market/Share Market and the Bond Market

RESEARCH OF INDIAN CAPITAL MARKET:

A Review by S.K. Barea, V. Raghunathan and J.R. Varma. A review paper on research done in any field invariably presents considerable difficulties.

What comprises research?

to What should be the period of review?

* What should be the objective of a review?

How does one ensure the coverage is comprehensive?

Such questions as above are bound to generate varied answers. The difficulty of the task increases manifold in Indian conditions where institutional addresses are one place, ready bibliographies are rare, referencing in published research is hardly comprehensive, and reprints are difficult to obtain. We would therefore begin by briefly outlining the basis on which the review of research on Indian capital markets has been done in this paper.

RESREACH DEFINITION:

For the purpose of the review, research has been defined as doctoral dissertations, papers

published in academic journals, books and working papers or occasional unpublished papers (where such information was available) on Indian capital markets. We have not reviewed articles published in the popular media such as financial magazine, business magazines and other popular magazines and journals. We have also excluded dissertations for masters degrees, reports of government committees or commissions, seminar and conference papers.

We have also largely excluded publications in foreign journals. It is possible that, in the process, the list of works reviewed may have excluded some excellent works published in popular media or included some sub-standard works published in academic journals. This narrowing of the coverage of the review on the above lines became necessary when we realized that it would be a formidable task to include every kind of published and unpublished work on the Indian capital markets in and outside India.

The authors are all members of finance faculty at the Indian Institute of Management, Ahmedabad. The authors gratefully acknowledge the able and painstaking research assistance provided by Ms. Lakshmi Ramanan. This work is partially supported by a research grant from the Indian Institute of Management,

Ahmedabad

OBJECTIVE AND RESEARCH METHODOLOGY:

OBJECTIVES:

1. To analyse the structure of Financial Market in India.
2. To understand Functions of Indian Capital Market

RESEARCH METHODOLOGY:

It is always important to be critical of the information presented in sources, especially since the material might have been gathered to address a different problem area. Moreover, many

secondary sources do not clearly describe issues such as the purpose of a study, how the data has been gathered, analysed and interpreted making it difficult for the researcher to assess their usefulness. In order to address this problem, We have tried to triangulate the secondary data by using numerous independent sources.

The information about the problem is collected from the Research Journals, Trade Magazines, Annual Reports of Banks and the Internet. For evaluating , Structure and Functions of Capital Markets in India ", I have focused on as recent material as possible. In order to get access to the latest developments in this area I have used a number of articles published in academic journals and trade magazines. We have also used secondary information from Internet based discussion forums. International Journal of Business Administration and Management.

FINDING

The Indian capital market has been attracting considerable attention in recent years especially after the opening up of the Indian economy. As a result, several researchers have addressed various issues pertaining to the capital market in India. What has been the trend of research in this field over the last 15 years?

This article by Barua, Raghunathan, and Varma examines this issue and provides a comprehensive review on the nature of research in the field of capital market in India. In the process, it also identifies research gaps and research issues that need attention from researchers.

PERIOD OF FINDING:

We have primarily reviewed work done in the fifteen years from 1977 to 1992. In addition, some works published in 1993, which we could readily access while analysing the data collected for the earlier fifteen years, have also been reviewed. It was not considered worthwhile to go further back in time because of two main reasons:

- a) the further one goes back in time, the more difficult it becomes to access works done,
- b) the characteristics of capital market in India have changed considerably and the market in the eighties and nineties has little resemblance with the market in the sixties and early seventies. We chose 1977 as a cut-off year for a break from the past since it was this year in which the MNCs operating in India were forced to dilute foreign holding under

FERA. The dilution was perhaps the genesis of the equity cult which gave a fillip to the Indian capital market.

SCOPE OF CAPITAL MARKET RESEARCH:

We were next faced with another difficult question about what can be classified as a work on capital markets. A variety of work in economics, accounting and finance would have some linkages with capital markets.

Works in corporate finance have strong linkages with security markets. For our purpose therefore, we considered works falling into any of the following categories as those belonging to the field of capital markets: valuation of stocks and functioning of the stock markets; valuation of bonds, convertible debentures and market for debt; new issues market and merchant banking; market efficiency ; dividends, bonus & rights issues and rates of return; and performance and regulations of mutual funds.

PERIOD OF REVIEW:

We have primarily reviewed work done in the fifteen years from 1977 to 1992.

In addition, some works published in 1993, which we could readily access while analysing the data collected for the earlier fifteen years, have also been reviewed. It was not considered worthwhile to go further back in time because of two main reasons:

a) the further one goes back in time, the more difficult it becomes to access works done, b) the characteristics of capital market in India have changed considerably and the market in the eighties and nineties has little resemblance with the market in the sixties and early seventies. We chose 1977 as a cut-off year for a break from the past since it was this year in which the MNCs operating in India were forced to dilute foreign holding under FERA. The dilution was perhaps the genesis of the equity cult which gave a fillip to the Indian capital market.

Objective of Review Even this aspect of the review required resolution of some key issues. Should it simply consist of annotated bibliographies of the research? Should it be a commentary on the works done without drawing any inferences for the future, or should it be our assessment about the emerging

scenario in the Indian capital market based on the research over the chosen period? We decided to provide a detailed bibliography at the end of the paper and provide a commentary on the more

serious works in the main body of the paper. In several areas, particularly where there have been dramatic changes in the regulatory or operating environment, we have also identified the kind of research that is needed.

CONCLUSION:

In the recent past the Indian Financial System has undergone sea changes and invented many new channels of financial sub-systems through the process of financial reforms. The past decade has witnessed the multiple growths in the volume of international trade and business due to the wave of globalization and liberalization all over the world. As a result, the demand for the international money and financial instruments increased significantly at the global level.

In this respect, changes in the interest rates, exchange rates and stock market prices at the different financial markets have increased the financial risks to the corporate world. Adverse changes have even threatened the very survival of the business world.

It is, therefore, to manage such risks; the new financial instruments have been developed in the financial markets, which are also popularly known as financial derivatives.

The basic purpose of these instruments is to provide commitments to prices for future dates for giving protection against adverse movements in future prices, in order to reduce the extent of financial risks. Not only this, they also provide opportunities to earn profit for those persons who are ready to go for higher risks.

In other words, these instruments, indeed, facilitate to transfer the risk from those who wish to avoid it to those who are willing to accept the same.

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COMPARATIVE ANALYSIS OF FINANCIAL PERFORMANCE BETWEEN BSE AND NSE

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ABSTRACT:

Stock markets played a vital role in raising funds from the public for the companies and it helped the investors to get profits from the trading on the shares and other financial assets of these companies. The health of our economy is reflected by the growth of the stock market. Over the years, the Indian stock markets have become stronger. So, the main purpose of this project is to make a comparison between the two most prominent stock exchanges of India.

(i.e., BSE & NSE)

KEYWORDS: NSE, BSE, TWO MAJOR STOCK EXCHANGES, STOCK MARKET.

The Bombay Stock Exchange (BSE) and the National Stock Exchange of India Ltd (NSE) are the two primary exchanges in India. In addition, there are 22 Regional Stock Exchanges. However, the BSE and NSE have established themselves as the two leading exchanges and account for about 80 percent of the equity volume traded in India. The NSE and BSE are equal in size in terms of daily traded volume. The average daily turnover at the exchanges has increased from Rs 851 crore in 1997-98 to Rs 1,284 crore in 1998-99 and further to Rs 2,273 crore in 1999-2000 (April – August 1999). NSE has around 2000 shares listed with a total market capitalization of around Rs 9, 21,500 crores.

The BSE has over 6000 stocks listed and has a market capitalization of around Rs 9, 68,000 crores. Most key stocks are traded on both the exchanges and hence the investor could buy them on either exchange. Both exchanges have a different settlement cycle, which allows investors to shift their positions on the bourses. The primary index of BSE is BSE Sensex comprising 30 stocks. NSE has the S&P NSE 50 Index (Nifty), consisting of fifty stocks. The BSE Sensex is the older and more widely followed index.

REVIEW OF LITERATURE:

Varma (1991) compares the BSE National Index (Natex) which comprises 100 scrips with the Sensitive Index (Sensex) comprising 30 scrips and concludes that the Natex is a sluggish index that responds too slowly to market conditions. Changes that are reflected in the Sensex on any day are completely reflected in the Natex only by the next day.

He finds that Sensex is more volatile than Natex. Gupta (1992) in his book concluded that an Indian stock market is highly speculative. Indian investors are dissatisfied with the service provided to them by the brokers. Margins levied by the stock exchanges are inadequate and liquidity in a large number of stocks in Indian markets is very low. Krishnamurti (2000) stated that India has two major stock exchanges: BSE and NSE.

There are important differences in ownership structure, geographical reach, internal control systems, and institutionalized risk management facilities between the BSE and NSE. **Gupta (2002)** studied the Performance Evaluation of the National Stock Exchange of India. She found that National Stock Exchange (NSE) has played the catalytic role in bringing about these transformations. Sinha and Pan (2006) have studied The Power (Law) of Indian Markets: Analyzing NSE and BSE trading statistics.

They analyzed the nature of fluctuations in the Indian financial market. They have looked at the price returns of individual stocks, with tick-by-tick data from the National Stock Exchange (NSE) and daily closing price data from both NSE and the Bombay Stock Exchange (BSE), the two largest exchanges in India. Pandian (2009) studied Stock Market Volatility in Indian Stock Exchanges.

She collected the data from BSE Sensex and NSE Nifty for calculating return and volatility. Sensex is a basket of 30 constituent stocks representing a sample of large, liquid, and representative companies.

OBJECTIVES OF THE STUDY:

To make a comparative analysis of financial performances of Bombay Stock Exchange & National Stock Exchange over the period.

Null Hypothesis: - There is no significant difference between the total current assets of BSE & NSE over the period.

Null Hypothesis: - There is no significant difference between the total Revenue of BSE & NSE over the period.

Null Hypothesis: - There is no significant difference between the profit after tax of BSE & NSE over the period

METHODOLOGY & SOURCES OF DATA:

The research paper is an empirical one. The paper is based on secondary data which has been referred from various websites, newspapers, journals, books, articles & surveys published on capital markets. The variables collected are Current Assets, Total Revenue, and Profit after Tax (PAT) for both BSE and NSE. The method used to analyze the data includes descriptive statistics and ANOVA.

Data Analysis

BSE has nearly 6000 companies listed, while NSE has nearly 2000 companies listed.

Table 1:

Net Current Assets (Rs. In Crores)				
YEARS	BSE Net Current Assets	Trend Percentage % (Base Year 2011)	NSE Net Current Assets	Trend Percentage % (Base Year 2011)
FY 2020	20009.19	961	17725.82	574
FY 2019	17035.58	818	13374.03	433
FY 2018	34643.91	1665	11988.32	388
FY 2017	20110.4	966	13508.43	437
FY 2016	890.11	43	8187.71	265
FY 2015	1221.34	59	8073.9	261
FY 2014	1045.76	50	4061.5	131
FY 2013	1509.68	73	4351.42	141
FY 2012	1846.02	89	3864.61	125
FY 2011	2081.34	100	3090.12	100
Mean	10039.33		8822.59	
SD	12021.84		5088.42	
CV	119.75		57.67	

Table 1 shows the difference between the means of net current assets of BSE & NSE. NSE is having a low mean score & BSE is having a high, which is 1.2 times of mean score of NSE. Though the 2.4 times standard deviation of NSE is lower than that of BSE. Due to this percentage of dispersion i.e., 119.75 which shows the high intensity of fluctuations. While co-efficient of variance in NSE is comparatively much lower, representing more consistency in net current assets.

H0: There is no significant difference between the total current assets of BSE & NSE over the period.

Groups	Count	Sum	Average	Variance		
BSE Net Current Assets	10	100393	10039	144524641		
NSE Net Current Assets	10	88226	8823	25891976		
Source of Variation	SS	Df	MS	F	P-value	F crit
Between Groups	7402366.31	1	7402366.31	0.08687376	0.7715621	4.41387341
Within Groups	153374954	18	85208308.2			
Total	154115191	19				

If the F is greater than the Fcrit then we will reject the null hypothesis. But in this case, the critical value is greater than the f- value so we will not able to reject the null hypothesis. It means we are accepting the null hypothesis. So, there is no significant difference between the net current assets of BSE & NSE. This may be because there is no major difference in the market capitalization of both companies. Market capital tells you about the relative size of the company and assets indicate how much money the company has these two help an investor to judge whether the company's stock represents a good value.

Table 2:

Total Revenue (Rs. In Crores)				
YEARS	BSE total revenue	Trend Percentage % (Base Year 2011)	NSE total revenue	Trend Percentage % (Base Year 2011)
FY 2020	542.13	123.00	3897.52	282.74
FY 2019	612.39	138.94	3514.57	254.96
FY 2018	651.07	147.72	3032.56	219.99
FY 2017	550.99	125.01	2680.83	194.48
FY 2016	515.42	116.94	2359.17	171.14
FY 2015	439.18	99.64	2275.44	165.07
FY 2014	332.83	75.51	1669.78	121.13
FY 2013	338.91	76.89	1648.11	119.56
FY 2012	402.80	91.39	1516.75	110.03
FY 2011	440.75	100	1378.47	100
Mean	482.65		2397.32	
SD	109.35		875.80	
CV	22.66		36.53	

Table 2 indicates the difference between the means of the total revenue of BSE and NSE over the period. The total revenue of both the stock exchanges is mostly increasing, but in NSE, total revenue is higher than BSE. Standard Deviation is also higher than in total revenue of NSE which shows, NSE is having more deviations and the range is also greater than that of BSE. Co-efficient of variation of NSE total revenue is also higher than that of BSE which shows that the total revenue of BSE is more consistent over the period.

H0: There is no significant difference between the total Revenue of BSE & NSE over the period.

Groups	Count	Sum	Average	Variance
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BSE total revenue	10	4826.47	482.647	11956.48402		
NSE total revenue	10	23973.2	2397.32	767017.1622		
Source of Variation	SS	Df	MS	F	P-value	F crit
Between Groups	18329863	1	18329863	47.06157538	2.03E-06	4.413873419
Within Groups	7010763	18	389486.8			
Total	25340626	19				

If the F is greater than the Fcrit then we will reject the null hypothesis. In this case, F is greater than the critical value, we will reject the null hypothesis. It means there is a significant difference between the total revenue of BSE & NSE. This may be due to NSE acting smart and using technology as their weapon. They introduced fully automated, electronic, and screen-based trading in India. They have provided a secure platform for trading shares and bonds electronically. The network of NSE is over 1500 cities. Whereas, the network of BSE is only 450 cities. There are around 2000 companies that are listed under NSE. Whereas BSE has nearly 6000 companies listed.

Table 3:

Profit After Tax (Rs. In Crores):				
YEARS	BSE Profit After Tax	Trend Percentage % (Base Year 2011)	NSE Profit After Tax	Trend Percentage % (Base Year 2011)
FY 2020	173.67	93.25	1884.78	295.65
FY 2019	201.05	107.95	1708.04	267.92
FY 2018	563.95	302.81	1461.47	229.25
FY 2017	198.64	106.66	1218.82	191.18
FY 2016	132.86	71.34	630.81	98.95
FY 2015	75.65	40.62	961.76	150.86

FY 2014	74.77	40.15	1,019.28	159.88
FY 2013	39.82	21.38	877.61	137.66
FY 2012	111.6	59.92	704.89	110.57
FY 2011	186.24	100	637.51	100
Mean	175.83		1110.50	
SD	147.81		446.53	
CV	84.07		40.21	

Table 5 shows the difference between the means of profit after tax of BSE & NSE. The mean score of profit after tax of NSE is higher than BSE. The standard deviation of NSE is comparatively higher than in BSE. While co-efficient of variation in NSE is lower than the BSE.

H0: There is no significant difference between the profit after tax of BSE & NSE over the period.

Groups		Count	Sum	Average		Variance
BSE Profit After Tax		10	1758.25	175.825		21847.36692
NSE Profit After Tax		10	11104.97	1110.497		199388.9633
Source of Variation	SS	Df	MS	F	P-value	F crit
Between Groups	4368059	1	4368059	39.48772	6.33E-06	4.413873
Within Groups	1991127	18	110618.2			
Total	6359186	19				

If the F is greater than the Fcrit then we will reject the null hypothesis. In this case, F is greater than the critical value, we will reject the null hypothesis. It means there is a significant difference between the total expenditure of BSE & NSE.

CONCLUSION:

The study was conducted with the objective of comparing key matrix of BSE and NSE for 10 years. The study of comparison between NSE and BSE will be helpful for the investors in decision making after

going through the table or analysing the table, the investors get a clear idea about investing. Many key factors are highlighted or shown below each chapter, so it becomes helpful for the reader or researcher to get a rough knowledge about research. After the introduction of NSE the buying and selling of stocks became easier because it was operated in a computerized manner earlier it was done manually so it was very much time consuming. The study is limited in context of variable selected for comparison and leaves it for exploration for future researches.

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TAX-TO-GDP RATIO AND THE RELATION OF TAX REVENUE WITH GDP: INDIAN PERSPECTIVE

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ABSTRACT:

This study aims to show the tax-to-GDP ratio condition and explore the relation of tax revenue with India's GDP. It is based on the secondary data that is collected from various published sources. Descriptive and exploratory research designs are used to explore the relationship between tax revenue and GDP. Some statistical and econometric tools like mean, correlation and linear regression. We find a weak association between Tax revenue and GDP.

KEYWORDS: Tax; GDP; Tax-GDP Ratio; linear regression.

INTRODUCTION:

Taxes are sources of revenue for the government. Government utilizes this revenue for developing infrastructure, providing healthcare, education, subsidy to the farmer/agriculture sector and in other government welfare schemes. Tax is a compulsory financial charge imposed upon a taxpayer by a government organization to fund government spending and various public expenditure. There are broadly total two types of taxes: 1) Direct Tax 2) Indirect Tax. Direct taxes are paid directly by the citizen to the government and cannot be remitted to others. Indirect taxes are taxes that can be transferred to another entity. The burden of paying it can be put on another person's shoulder. These taxes are collected by the producer or retailer from the supply chain and is paid to the government.

Income tax is one of direct tax. It refers to taxes are filed and paid by an individual. It is based on one's income. A certain percentage is taken from a worker's salary, depending upon how much he/ she earns. Income tax is a type of tax that the central government charges on the income earned during a financial year by the individuals and businesses. Income tax is charged by government.

Due to the high tax-to-GDP ratio, the government's private sector is disappointed with the government and advising the government to lower the tax rate and expand the tax net to create a conducive investment environment. The high tax-to-GDP ratio discouraged investors from increasing their business. Only a tax increase- to- GDP ratio is not the panacea to the economy's financial problems. Many socialistic economists assume that increased rate hampers economic growth. Various studies emphasize the

numerical value of tax-to- GDP ratio. But critical analysis is absent. Similarly, various studies are holding on to the functional relationship between GDP and tax revenue. Tax and GDP are interdependent with each other. This study's main objective is to study India's tax-to- GDP ratio It further aims to identify the degree of the relationship between GDP and tax revenue.

REVIEW OF LITERATURE:

The IMF (2018) observed a comparative analysis of the tax-to-GDP ratio of Asian countries and found the tax-to-GDP ratio range in 15 to 20%. It advises the Asian countries to keep the tax-to- GDP ratio threshold around 15 percent. It also saw that most region countries consistently fall below a ratio of 15 percent of their GDP. Dadson, Bayraktar et al. (2012) studied the tax capacity and tax effort by employing a cross-country study from a sample of 110 developed and developing countries to give a broad guideline for tax reform. The use of tax effort and actual tax collection benchmarks allows the ranking of countries into four different groups like low tax collection and low tax effort, high tax collection and high tax effort, high tax collection and low tax effort and inadequate tax collection and high tax effort. Chigbu, Akujuobi et al. (2012) examined the relationship between tax revenue and Nigeria's economy. They analyzed the level of economic growth that has impacted positively on tax revenue in Nigeria. The general conclusion is that macroeconomic instability and the degree of economic activities are the main drivers of tax buoyancy and tax effort in Nigeria. They found that taxation is an important instrument to improve economic growth.

Brender and Navon (2010) analyzed the relationship of the GDP with tax revenues. The paper found the uncertainty in predicting Israel's tax revenue and concluded that the long run tax revenue and GDP are elastic. Hakim and Bujang (2012) observed that the total tax revenue to GDP ratio is higher in the high-income countries than in the low and middle states. In addition to that, Mashkoo, Alis et al. (2010) empirically investigated that saving causes real GDP growth unidirectional. The direct tax to GDP ratio granger causes real GDP growth significantly. OECD (2019) studied the tax-to-GDP ratio of its 37 member countries and found that the rounding the OECD average tax-to-GDP ratio was 34.3 percent in 2018. France had the highest tax-to- GDP ratio (i.e., 46.1%) in 2018, and Denmark had the second highest (44.9%) tax-to- GDP ratio. Mexico had the lowest (16.1%) tax-to-GDP rate among the member countries OECD countries.

OBJECTIVES:

1. To assess India's tax-to- GDP ratio
2. To verify whether income tax provides substantial source of income to government or not.
3. To identify the degree of the relationship between GDP and tax revenue

RESEARCH METHODOLOGY:

This study is based on a descriptive and exploratory research design. The variables are explored, described, and analysed to prove the objectives and research questions. Quantitative data are used to describe and explore the result. Data used for this study are secondary time-series data obtained for 12 years from 2008-09 to 2019-20. Data are collected from various published sources like economic survey, the financial review. The tax revenue of the economy is affected by the size of the GDP.

To confirm the idea, let us consider the linear regression equation: -

$$\text{TXR}=\text{f}(\text{GDP}) \quad (1)$$

$$\text{TAX REV}=\beta + \beta_2 \text{GDP} + \varepsilon_t \quad (2)$$

Data Analysis & Interpretations:

Financial Years	Tax Revenue	GDP (in crs)	Contribution of Income Tax towards Total Tax Revenue	Contribution of Income Tax towards GDP
2008-09	1,20,429	4987090	19.9	10.98
2009-10	1,20,034	5630063	21.36	9.81
2010-11	1,32,833	6457352	18.52	10.39
2011-12	1,46,258	7674148	19.26	10.18
2012-13	1,70,181	9009722	19.56	10.84
2013-14	2,01,840	10113281	21.42	11.00
2014-15	2,42,888	11355073	21.45	9.98
2015-16	2,65,772	12541208	19.78	10.57
2016-17	2,87,637	13567192	20.42	11.15
2017-18	3,49,503	15253714	24.54	11.39
2018-19	4,19,998	16773145	20.4	12.03
2019-20	51,33,084	14569000	20.7	10.88

Source: <https://data.worldbank.org/indicator/GC.TAX.TOTL.GD.ZS?locations=IN>

Table 2: Descriptive Statistics

Description	Tax Revenue	GDP (in crs)	Contribution of Income Tax towards Total Tax Revenue	Contribution of Income Tax towards GDP
Mean	632538.0833	10660915.67	20.60916667	10.76548197
Standard Error	410061.5396	1145838.69	0.443330129	0.180261241
Median	222364	10734177	20.41	10.85838585
Standard Deviation	1420494.842	3969301.656	1.535740617	0.624443255
Kurtosis	11.85998826	-1.345451829	3.453818675	0.158382036
Skewness	3.436403637	0.001531836	1.464274067	0.317081203
Range	5013050	11786055	6.02	2.21579049
Minimum	120034	4987090	18.52	9.80972541
Maximum	5133084	16773145	24.54	12.0255159
Sum	7590457	127930988	247.31	129.1857836
Count	12	12	12	12

Table 2 throws the ideas of descriptive statistics of tax revenue and GDP derived from actual data. The GDP ranges from 4987090 to 16773145 crores rupees. But the tax revenue ranges from 120034 to 5133084 crores rupees, and the tax- to- GDP ratio ranges from 9.8 to 12.02 percent during the study period. The standard deviation of tax revenue is greater than GDP. So, the mean tax revenue is more representative than the GDP.

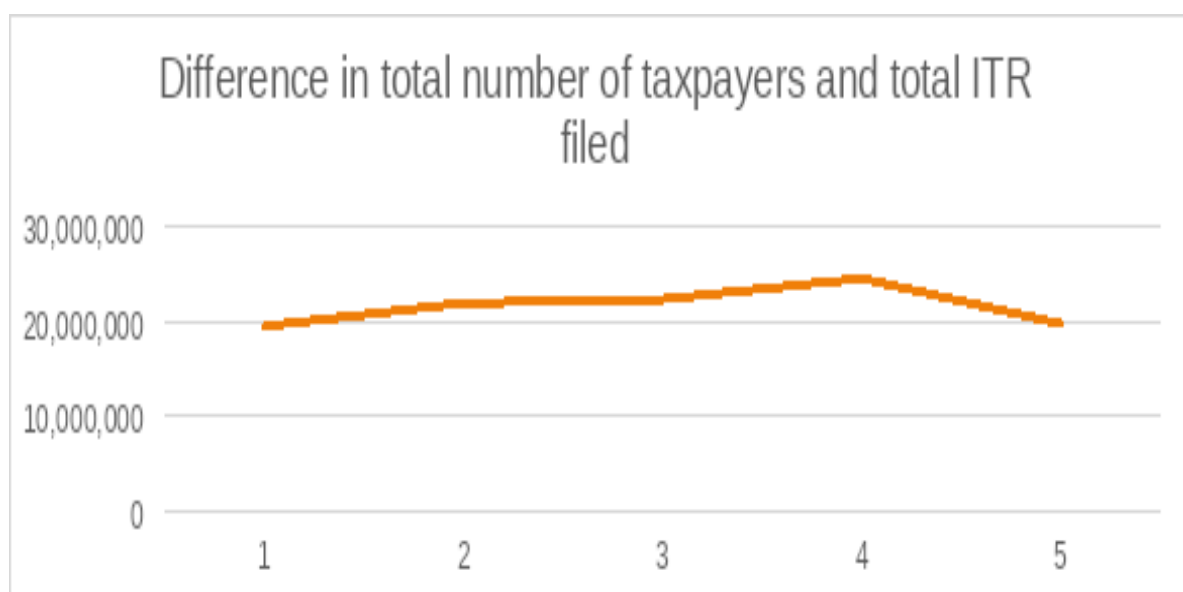
CORRELATION:

Tax Revenue	GDP (in crs)

Tax Revenue	1	
GDP (in crs)	0.371854831	1

Correlation is used to see the relation between Tax Revenue and GDP. The relation is positive but the coefficient 0.37 is quite low. A huge standard deviation of tax revenue also supports a less correlation between the two. The 0.37 coefficient explains that tax revenue has weak relationship with GDP.

It observed that from data collected of last few years, there is gap in the total number of taxpayers and total ITR filed. The difference slightly decreasing but still it is not yet eliminated. The graph of difference is attached below.



Listed below the reasons behind this difference.

1. Ignorance: Ignorance could be the one of the reason. Tax payers are might be ignoring the importance of tax payments. They might be registering on portal but they are forgetting to file the ITR.
2. Lack of Awareness: Many people are not aware about their tax liability and the overall procedure of tax payment. Therefore, tax payers might not be aware about that they should have to file ITR.
3. Not coming under tax liability: Slab rates are available in income tax. So, income below 2,50,000 is not liable for income tax. Therefore, many assumes that they are coming under tax exemptions.

CONCLUSION:

It is seen from India's economic condition that the higher tax-to-GDP ratio alone cannot ensure its high economic growth and India record a decent yet fluctuating tax-to-GDP ratio. It is necessary to advise the government to expand the tax net rather than solely focusing on custom revenue and income tax. Moreover, proper monitoring is required with an appropriate ITR system. The government effort has to

put in tax diversification. The maximization of tax revenue is possible at the maximizing condition of GDP. A very high tax-to-GDP ratio discourages investment. So, it is necessary to decrease the tax rate to allow investors to expand their investment. To determine the tax rate, it is essential to consider the impact on private investment.

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COMPARATIVE ANALYSIS OF FINANCIAL PERFORMANCE BETWEEN BSE AND NSE

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ABSTRACT:

Stock markets played a vital role in raising funds from the public for the companies and it helped the investors to get profits from the trading on the shares and other financial assets of these companies. The health of our economy is reflected by the growth of the stock market. Over the years, the Indian stock markets have become stronger. So, the main purpose of this project is to make a comparison between the two most prominent stock exchanges of India.

(i.e., BSE & NSE)

KEYWORDS: NSE, BSE, TWO MAJOR STOCK EXCHANGES, STOCK MARKET.

The Bombay Stock Exchange (BSE) and the National Stock Exchange of India Ltd (NSE) are the two primary exchanges in India. In addition, there are 22 Regional Stock Exchanges. However, the BSE and NSE have established themselves as the two leading exchanges and account for about 80 percent of the equity volume traded in India. The NSE and BSE are equal in size in terms of daily traded volume. The average daily turnover at the exchanges has increased from Rs 851 crore in 1997-98 to Rs 1,284 crore in 1998-99 and further to Rs 2,273 crore in 1999-2000 (April – August 1999). NSE has around 2000 shares listed with a total market capitalization of around Rs 9, 21,500 crores.

The BSE has over 6000 stocks listed and has a market capitalization of around Rs 9, 68,000 crores. Most key stocks are traded on both the exchanges and hence the investor could buy them on either exchange. Both exchanges have a different settlement cycle, which allows investors to shift their positions on the bourses. The primary index of BSE is BSE Sensex comprising 30 stocks. NSE has the S&P NSE 50 Index (Nifty), consisting of fifty stocks. The BSE Sensex is the older and more widely followed index.

REVIEW OF LITERATURE:

Varma (1991) compares the BSE National Index (Natex) which comprises 100 scrips with the Sensitive Index (Sensex) comprising 30 scrips and concludes that the Natex is a sluggish index that responds too slowly to market conditions. Changes that are reflected in the Sensex on any day are completely reflected in the Natex only by the next day.

He finds that Sensex is more volatile than Natex. Gupta (1992) in his book concluded that an Indian stock market is highly speculative. Indian investors are dissatisfied with the service provided to them by the brokers. Margins levied by the stock exchanges are inadequate and liquidity in a large number of stocks in Indian markets is very low. Krishnamurti (2000) stated that India has two major stock exchanges: BSE and NSE.

There are important differences in ownership structure, geographical reach, internal control systems, and institutionalized risk management facilities between the BSE and NSE. **Gupta (2002)** studied the Performance Evaluation of the National Stock Exchange of India. She found that National Stock Exchange (NSE) has played the catalytic role in bringing about these transformations. Sinha and Pan (2006) have studied The Power (Law) of Indian Markets: Analyzing NSE and BSE trading statistics.

They analyzed the nature of fluctuations in the Indian financial market. They have looked at the price returns of individual stocks, with tick-by-tick data from the National Stock Exchange (NSE) and daily closing price data from both NSE and the Bombay Stock Exchange (BSE), the two largest exchanges in India. Pandian (2009) studied Stock Market Volatility in Indian Stock Exchanges.

She collected the data from BSE Sensex and NSE Nifty for calculating return and volatility. Sensex is a basket of 30 constituent stocks representing a sample of large, liquid, and representative companies.

OBJECTIVES OF THE STUDY:

To make a comparative analysis of financial performances of Bombay Stock Exchange & National Stock Exchange over the period.

Null Hypothesis: - There is no significant difference between the total current assets of BSE & NSE over the period.

Null Hypothesis: - There is no significant difference between the total Revenue of BSE & NSE over the period.

Null Hypothesis: - There is no significant difference between the profit after tax of BSE & NSE over the period

METHODOLOGY & SOURCES OF DATA:

The research paper is an empirical one. The paper is based on secondary data which has been referred from various websites, newspapers, journals, books, articles & surveys published on capital markets. The variables collected are Current Assets, Total Revenue, and Profit after Tax (PAT) for both BSE and NSE. The method used to analyze the data includes descriptive statistics and ANOVA.

Data Analysis

BSE has nearly 6000 companies listed, while NSE has nearly 2000 companies listed.

Table 1:

Net Current Assets (Rs. In Crores)				
YEARS	BSE Net Current Assets	Trend Percentage % (Base Year 2011)	NSE Net Current Assets	Trend Percentage % (Base Year 2011)
FY 2020	20009.19	961	17725.82	574
FY 2019	17035.58	818	13374.03	433
FY 2018	34643.91	1665	11988.32	388
FY 2017	20110.4	966	13508.43	437
FY 2016	890.11	43	8187.71	265
FY 2015	1221.34	59	8073.9	261
FY 2014	1045.76	50	4061.5	131
FY 2013	1509.68	73	4351.42	141
FY 2012	1846.02	89	3864.61	125
FY 2011	2081.34	100	3090.12	100
Mean	10039.33		8822.59	
SD	12021.84		5088.42	
CV	119.75		57.67	

Table 1 shows the difference between the means of net current assets of BSE & NSE. NSE is having a low mean score & BSE is having a high, which is 1.2 times of mean score of NSE. Though the 2.4 times standard deviation of NSE is lower than that of BSE. Due to this percentage of dispersion i.e., 119.75 which shows the high intensity of fluctuations. While co-efficient of variance in NSE is comparatively much lower, representing more consistency in net current assets.

H0: There is no significant difference between the total current assets of BSE & NSE over the period.

Groups	Count	Sum	Average	Variance		
BSE Net Current Assets	10	100393	10039	144524641		
NSE Net Current Assets	10	88226	8823	25891976		
Source of Variation	SS	Df	MS	F	P-value	F crit
Between Groups	7402366.31	1	7402366.31	0.08687376	0.7715621	4.41387341
Within Groups	153374954	18	85208308.2			
Total	154115191	19				

If the F is greater than the Fcrit then we will reject the null hypothesis. But in this case, the critical value is greater than the f- value so we will not able to reject the null hypothesis. It means we are accepting the null hypothesis. So, there is no significant difference between the net current assets of BSE & NSE. This may be because there is no major difference in the market capitalization of both companies. Market capital tells you about the relative size of the company and assets indicate how much money the company has these two help an investor to judge whether the company's stock represents a good value.

Table 2:

Total Revenue (Rs. In Crores)				
YEARS	BSE total revenue	Trend Percentage % (Base Year 2011)	NSE total revenue	Trend Percentage % (Base Year 2011)
FY 2020	542.13	123.00	3897.52	282.74
FY 2019	612.39	138.94	3514.57	254.96
FY 2018	651.07	147.72	3032.56	219.99
FY 2017	550.99	125.01	2680.83	194.48
FY 2016	515.42	116.94	2359.17	171.14
FY 2015	439.18	99.64	2275.44	165.07
FY 2014	332.83	75.51	1669.78	121.13
FY 2013	338.91	76.89	1648.11	119.56
FY 2012	402.80	91.39	1516.75	110.03
FY 2011	440.75	100	1378.47	100
Mean	482.65		2397.32	
SD	109.35		875.80	
CV	22.66		36.53	

Table 2 indicates the difference between the means of the total revenue of BSE and NSE over the period. The total revenue of both the stock exchanges is mostly increasing, but in NSE, total revenue is higher than BSE. Standard Deviation is also higher than in total revenue of NSE which shows, NSE is having more deviations and the range is also greater than that of BSE. Co-efficient of variation of NSE total revenue is also higher than that of BSE which shows that the total revenue of BSE is more consistent over the period.

H0: There is no significant difference between the total Revenue of BSE & NSE over the period.

Groups	Count	Sum	Average	Variance
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BSE total revenue	10	4826.47	482.647	11956.48402		
NSE total revenue	10	23973.2	2397.32	767017.1622		
Source of Variation	SS	Df	MS	F	P-value	F crit
Between Groups	18329863	1	18329863	47.06157538	2.03E-06	4.413873419
Within Groups	7010763	18	389486.8			
Total	25340626	19				

If the F is greater than the Fcrit then we will reject the null hypothesis. In this case, F is greater than the critical value, we will reject the null hypothesis. It means there is a significant difference between the total revenue of BSE & NSE. This may be due to NSE acting smart and using technology as their weapon. They introduced fully automated, electronic, and screen-based trading in India. They have provided a secure platform for trading shares and bonds electronically. The network of NSE is over 1500 cities. Whereas, the network of BSE is only 450 cities. There are around 2000 companies that are listed under NSE. Whereas BSE has nearly 6000 companies listed.

Table 3:

Profit After Tax (Rs. In Crores):				
YEARS	BSE Profit After Tax	Trend Percentage % (Base Year 2011)	NSE Profit After Tax	Trend Percentage % (Base Year 2011)
FY 2020	173.67	93.25	1884.78	295.65
FY 2019	201.05	107.95	1708.04	267.92
FY 2018	563.95	302.81	1461.47	229.25
FY 2017	198.64	106.66	1218.82	191.18
FY 2016	132.86	71.34	630.81	98.95
FY 2015	75.65	40.62	961.76	150.86

FY 2014	74.77	40.15	1,019.28	159.88
FY 2013	39.82	21.38	877.61	137.66
FY 2012	111.6	59.92	704.89	110.57
FY 2011	186.24	100	637.51	100
Mean	175.83		1110.50	
SD	147.81		446.53	
CV	84.07		40.21	

Table 5 shows the difference between the means of profit after tax of BSE & NSE. The mean score of profit after tax of NSE is higher than BSE. The standard deviation of NSE is comparatively higher than in BSE. While co-efficient of variation in NSE is lower than the BSE.

H0: There is no significant difference between the profit after tax of BSE & NSE over the period.

Groups		Count	Sum	Average		Variance
BSE Profit After Tax		10	1758.25	175.825		21847.36692
NSE Profit After Tax		10	11104.97	1110.497		199388.9633
Source of Variation	SS	Df	MS	F	P-value	F crit
Between Groups	4368059	1	4368059	39.48772	6.33E-06	4.413873
Within Groups	1991127	18	110618.2			
Total	6359186	19				

If the F is greater than the Fcrit then we will reject the null hypothesis. In this case, F is greater than the critical value, we will reject the null hypothesis. It means there is a significant difference between the total expenditure of BSE & NSE.

CONCLUSION:

The study was conducted with the objective of comparing key matrix of BSE and NSE for 10 years. The study of comparison between NSE and BSE will be helpful for the investors in decision making after

going through the table or analysing the table, the investors get a clear idea about investing. Many key factors are highlighted or shown below each chapter, so it becomes helpful for the reader or researcher to get a rough knowledge about research. After the introduction of NSE the buying and selling of stocks became easier because it was operated in a computerized manner earlier it was done manually so it was very much time consuming. The study is limited in context of variable selected for comparison and leaves it for exploration for future researches.

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AI AND HEALTH INSURANCE: SPECIAL REFERENCE OF ICICI LOMBARD

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ABSTRACT:

India offers \$78 bn of annual additional life insurance premium opportunity over 2020-30. The insurance industry in India has 58 insurance companies, including 34 non-life insurers (25 general insurers, 7 standalone healths, 2 specialized insurers. (IRDIA report 2021). There is vast and wide variety of Artificial Intelligence (AI) applications used across all industries. Now a days Artificial Intelligence (AI) has become a buzzword in the insurance industry. As penetration of Insurance industry is still very low 3.76% in 2019 (IRDAI report). AI applications in the insurance industry is becoming the major buzz which is helping insurance penetration to improve in the developing country like India. Hence this research paper attempts to study the relevance and importance of AI insurance sector especially Health insurance in India with special reference to the ICICI Bank.

Keywords: Health Insurance, Artificial Intelligence, ICICI Bank

INTRODUCTON:

Insurance companies around the world are moving towards AI and Intelligent Process Automation. Customer expectations are rising, and insurance companies can gain a competitive advantage by automating their claims processing, customer service and other operations.

While shopping for insurance policies, customers are looking for a personalized experience. Insurers are able to harness the results of AI to customize unique experiences for customers. Besides, the high-speed demand of modern customers is taken care of with the help of AI. Through this approach, insurers are able to improve the turn-around-time of claims and change the underwriting process. AI also enables insurers to access more accurate reports in a shorter span of time.

AI and its related technologies will have a seismic impact on all aspects of the insurance industry, from distribution to underwriting and pricing to claims. Advanced technologies and data are already affecting distribution and underwriting, with policies being priced, purchased, and bound in near real time. An in-depth examination at what insurance may look like in 2030 highlights dramatic changes across the insurance value chain.

Agents use smart personal assistants to optimize their tasks as well as AI-enabled bots to find potential deals for clients. These tools help agents to support a substantially larger client base while making customer interactions (a mix of in-person, virtual, and digital) shorter and more meaningful, given that each interaction will be tailored to the exact current and future needs of each individual client.

InsurTech companies are leveraging Artificial Intelligence (AI) to conquer more ground in today's digital world. AI has evolved over the years and has had far-reaching consequences on most tech-driven operations, including the insurance industry. AI is enabling insurers to apply machine learning, data modelling, and predictive analysis to the entire insurance value chain, and the results have been favourable in the form of an increased bottom line and enhanced customer satisfaction. Read ahead to know the impact AI has and will have on the now digitally oriented insurance industry.

Insurtechs – Technology-driven insurance start-ups have emerged as a major attraction for investors. Between 2015 and 2020, Indian insurtechs have raised >US\$ 1 billion and produced two unicorn start-ups—Digit Insurance and Policy Bazaar. In the first half of 2021, several insurtechs raised funding from mid-sized venture capital firms including Turtle mint (US\$ 46 million), Renew Buy (US\$ 45 million) and Digit Insurance (US\$ 18 million)

OBJECTIVE OF STUDY:

- To understand the role of AI (Artificial intelligence) in health insurance sector.
- To find out the adaptation of various AI (Artificial Intelligence) applications.

HYPOTHESES:

- AI has positive impact on cash less claim settlement process of health insurance policies.

RESEARCH METHODOLOGY:

For the study primary and secondary data was collected. Primary data was collected through questionnaire method from 30 agents who were involved in the sale of health insurance policies. The study is descriptive as it attempts to understand the application of AI disrupting the health insurance sector.

REVIEW OF LITERATURE:

- K Swathi and R Anuradha (2017), Health insurance in India- An overview. The paper highlights the concept and benefits of health insurance besides presenting an overview of health insurance sector in India. A brief of number of persons covered under various schemes such as government sponsored, group insurance, family insurance, individual policies is portrayed. Sector wise health insurance

policies along with number of persons covered by public, private and specialized insurers are depicted. Suggestions of the study are for government to introduce new health insurance schemes for welfare of the common people. The Insurance Regularity and Development Authority (IRDA) is suggested to take initiatives to promote competition in health insurers as available in telecom service providers. Government is also advised to conduct awareness campaigns to inform people about benefits of taking health insurance policies.

- Binny, Dr. Meenu Gupta (2017), Health insurance in India- Opportunities and challenges. The paper is about present trends of health insurance sector in India. Growth opportunities and challenges in the sector are identified. The study is of the opinion that health insurance is a growing sector in India. Companies are required to enhance their business by introduction of new business models with innovative products. Need of a universal health insurance program is recognized to cover families below poverty line. Medical tourism is also a growing business in India and health insurance companies can take advantage of this sector to enhance business. The sector is also advised to have a common information bank for information sharing which may help customers in assessment of prices, quality and services provided by health insurance companies.

- BC Lakshmana, P Jayarami Reddy, P Sravan Kumar (2019), Operational efficiency of selected general insurance companies in India. The study is conducted on selected general insurance companies regarding pattern of insurance premium, claim settlement procedure and evaluate performance of companies. In percentage analysis of the insurance premium collected by both public and private sector insurance companies showed a significant growth from 13.55% to 24.29% during the years 2011 to 2013 which later decreased to 13.42% in the year 2018. Average growth rate during the years 2010 to 2018 was 13.85%. After the study was conducted it was observed that public sector general insurance providers required new and innovative products in order to compete with their private counterparts. IRDA, being a regulatory authority of the sector was suggested to formulate standard policies and benchmarks to be followed by both public and private sector players.

- Suman Devi and Dr. Vazir Singh Nehra (2015), The problems with health insurance sector in India. The study narrates some of the new inventions in the health insurance sector such as health insurance portability, RashtriyaSwasthyaBimaYojna (RSBY), hybrid products and critical illness cover. Problems associated with the health insurance are highlighted and probable solutions are given. Examples of Bajaj Allianz, Cholamandalam MS and Star Health are given that have eliminated Third Party Administrators (TPAs) and have opted for direct settlement of claims. As per study, insurers now have started visiting hospitals to meet patients for claims in the category of group insurance. If any fault is found, then policy renewal is stopped. There are also pre-agreed rates for surgeries and treatments which prevents differential charging of tariffs. Other problems like high claim pay-out ratio in public sector insurers, unprofessionalism of TPAs, lack of development of health insurance in rural areas,

wrong selection of health insurance policies, and lack of awareness about health insurance policies are highlighted.

- Satakshi Chatterjee, Dr. Arunangshu Giri, Dr. S.N. Bandyopadhyay (2018), Health insurance sector in India: A study. The study is descriptive and describes various health insurance products offered in India. It attempts to analyse the insurance models of healthcare of selected other countries as well. Non amalgamation between public and private companies is identified as a major hindrance in development of the health insurance sector in the country. Health insurance is regarded as an unsaturated market in India and the middle-income group i. e. the targeted population of this industry will create a boom in health insurance in years to come. It is estimated that overall insurance sector will value around USD 280 billion by the end of 2020. The health insurance sector is required to be made universal irrespective of the income level and background of individual and families.

ICICI AND HEALTH INSURANCE:

ICICI Lombard, the leading private sector general insurance company in India has always been synonymous with tech advancements in the Insurance sector. However, they are not only a tech first insurance company, but they also rely heavily on their customers for inspiration. Take for example, the Artificial Intelligence (AI) based cashless claims settlement process.

Traditionally cashless claim settlement is a process that not many of us looked forward to. It is complex and time-consuming. In fact, it needs a lot of technical know-how and human dependence. With all of this in place the total time taken for such a process is at least an hour. During medical emergencies when we seek immediate treatment for our loved ones, waiting for so long is not an option. At times like these we wish that there was a human touch to all these processes. We hope that someone would consider what we're going through and hold our hand through this ordeal.

With ICICI Lombard's AI based cashless claims settlement, the complete claim authorization process has been automated. The company has harnessed Algorithms using Cognitive Computing along with Intelligent Character Recognition (ICR) & Optical Character Recognition (OCR) in this tech enabled innovation. The decision on the claim authorization have also been updated. Once the data is uploaded in the system, the AI based technology evaluates the admissibility of the claim. A deep learning module is deployed, which automatically provides the amount to be approved using defined algorithms. As a result, the time required for reading and then subsequently approving the form has become a matter of seconds. The entire process is now complete in just a minute. The varied medical procedures where AI is being deployed includes Cataract, Maternity, Appendicitis, Hemodialysis and Hysterectomy. The insurer is looking to expand this list over due course of time.

This is not the first time that ICICI Lombard has come up with an innovative solution for its customers. In the past it has introduced several 'industry first' solutions such as 'InstaSpect' – India's first real time claims approval for motor insurance claims using live video inspection and an AI powered interface for customer query management through chat bots (MyRA). As always ICICI Lombard has strived to deliver technology with a human touch.

DIGITAL EMPLOYEES:

Digital Employee is a flexible solution that can automate a variety of tasks, work in any system, and be customized for your specific needs.

For example, they can automate the majority of tasks related to claims coordination. Our claims coordinator has an average of 90% Automation Grade, and that number might get even higher as AI and machine-learning make our solutions smarter every day.

In the insurance industry, AI is transforming areas such as underwriting, customer service, claims, marketing and fraud detection. ... Whether it is structured or unstructured data (e.g., social media, wearables, telematics, sensors, news, weather and traffic reports), AI is helping insurers make sense of big data.

Healthcare in India is highly complex and difficult to understand when it comes to analysing data and patients sometimes pay the price for the same. By utilizing AI in healthcare, it can increase productivity and the effectiveness of treatments. It can also help healthcare professionals to spend more time in providing the right care and thereby reducing burn out of the medical practitioners.

Below are the ways of how AI will impact healthcare:

- Access to healthcare in developing or underserved countries.
- Reduction in the burden of electronic health records.
- Reducing the risks of antibiotic resistance.
- Faster insurance claims.
- Personalized health insurance plans.

Direct online sales by insurance firms and insurance distributors make up the online insurance sector in India the online insurance business is underserved, with only 1.0% premiums sold online in FY20 compared with 13.3% in US and 5.5% in China. Further, in FY20, the digital insurance marketplace accounted for 54.3% of the online insurance industry. Owing to increased digital penetration, the share of online insurance is likely to grow significantly in the future.

These days, consumers spend a lot of time on the Internet and demand personalized experience across insurance products, pricing, and claims. In addition, new requirements are emerging because

of a shift in lifestyle such as greater leisure travel and pet adoption. These changes encourage clients to try new products such as bite-sized insurance, self-help solutions and packaged services.

FINDINGS:

- 80% of the respondents agreed that AI and technology has enabled smooth functioning of buying and selling of the health insurance policies.
- 65% of the respondents agreed that AI has improved the time period of activating the health insurance policies.
- 70% of the respondents strongly that agreed due to the advent of AI applications in the health insurance product the cash less claim addressing procedure.

CONCLUSION:

Health insurance in India is an unsaturated market to a large extent. This sector has a bunch of opportunities as is the evident in the data shown above. The present study clearly indicates that there is a large proportion of population still uncovered from the health insurance products. However, over a period of last years, this sector has witnessed a rapid expansion. Attracting from the potential growth in this sector, a good number of private health insurers with foreign collaborations have been able to create their market share. Though the relative share of indigenous public sector insurance companies has declined even then in absolute terms their business (in terms of no. of policies and premium amount) has significantly increased. Innovation in the health insurance products can be very significant in further growth and development of this sector in India. Competition, which is predominant in the health insurers, will also add in insuring new people enabling further penetration of health insurance products among Indian population. Taking a health insurance cover and Subsequent payment of health insurance premium on regular basis is an easy way to mitigate any kind of financial losses due to health issues in future which may affect peace of mind and health as collateral. Thus, health insurance could be a breakthrough for common public at large who can avail best in class medical facilities in any part of the country to the extent of sum assured in the policy document without bothering to any loss of savings leading to financial and mental disability.

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A STUDY ON GROWTH OF VENTURE CAPITAL IN INDIA

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ABSTRACT:

Venture Capital Investment finance in India was known since nineties. It is currently has effectively arisen for all the business firms that take up unsafe undertakings and have high development possibilities. The private association which would rather not take finance from the public might have their view on investment. It can possibly turn into a significant hotspot for financing of limited scope ventures (SSEs). Funding can assume a more inventive and formative part in an emerging nation like India. It could assist the recovery of debilitated units through individuals with thoughts and circle back administration abilities. One more region where VCFs can assume a huge part in emerging nations is the help area including the travel industry, distributing, and medical services. The encounters of created nations and the itemized contextual analysis of funding in India, in any case, demonstrate that the accompanying components are required for the accomplishment of investment in any country. They are Entrepreneurial custom, unregulated monetary climate, disinvestments roads, financial motivators, wide based training, investment supervisors, advancement endeavors, establishment industry linkage and innovative work exercises. This study shows the analysis of development of Venture Capital Investment in India.

KEYWORDS: Venture Capital, Investment, Fund.

INTRODUCTION:

Venture is a process of processing, the result of which is uncertain but to which the risk or risk of "loss" lies. "Money" means the resources to start a business. In order to address the risks and sacrifices of such funds, a common name was Venture Capital. Venture capital is considered to fund high-tech and innovative businesses. Venture funding is said to involve investing in new or untested technologies, started by emerging entrepreneurs and skilled tradesmen or professionals with insufficient funds. The relatively high risk of business finance is compensated by having the potential for higher returns usually with greater financial benefits over the medium term.

Investments are often referred to as a small set of secret values. The history of Venture Capital can be traced back to the 19th century, but investment was created as an industry, shortly after World War II. Georges Doriot is regarded as the Father of Venture Capital. In 1946, he started the ARDC, an American innovative work Corporation. Doriot was instrumental in bringing in \$ 3.5 million in

development goods created during World War II. X-beam treatment of diseases was one of the first ideas developed by ARDC. The \$ 200,000, donated by Doriot, amounted to \$ 1.8 million in 1955, and the organization opened up.

Venture capital in a broad sense is not just about investing in a new company, it is also investing in the skills needed to start a company, design its marketing strategy, plan and manage it. It is therefore a long-term relationship with successive stages of corporate development under very risky investment conditions, with a different type of funding appropriate for each development phase. Investors join entrepreneurs as partners and support the project with financial and business skills to take advantage of market opportunities.

STAGES OF VENTURE CAPITAL:

Financing VC may be categorized as according to the level wherein its miles being invested. Generally, its miles of the subsequent 6 types:

1) SEED FUNDING - seed financing or seed capital is the capital contributed to assist entrepreneur(s) lead introductory sporting activities for putting in a corporation. This can contain object studies and improvement, statistical surveying, commercial enterprise, marketable approach creation, and so forth Seed subsidizing can also additionally likewise accept through the real owners or their loved ones and companions.

2) START-UP CAPITAL - Fire up capital is often applied conversely with seed financing. In any case, there are minor contrasts. Ordinarily, marketers gain stir up capital once they have completed the cycles that encompass seed subsidizing. It has a tendency to be applied to make an object model, appoint crucial management paintings force, and so forth

3) FIRST STAGE, FIRST ROUND OR SERIES A - First level is furnished to groups which have a product and need to begin industrial production, sales, and marketing.

4) EXPANSION FUNDING - growth capital is the fund required through a agency to increase its operations. The price range may be used to faucet new markets, create new merchandise, spend money on new device and technology, or maybe accumulate a brand new agency.

5) LATE-STAGE FUNDING - Late-level investment is obtainable to groups which have carried out achievement in industrial production and sales. Companies on this level can also additionally have notable increase in sales however now no longer display any profit.

6) BRIDGE FUNDING - Also referred to as mezzanine financing, bridge investment enables an agency to fulfil its short-time period prices vital to create a preliminary public offering (IPO).

REVIEW OF LITERATURE:

Paul Gompers and Josh Lerner (2001) Empirical research into the venture capital industry has made considerable strides over the past decade. The manners in which venture capital funds are raised and structured, the capital is invested in young firms, and these investments are concluded are now much better understood. But at the same time, much remains to be learned. In other cases, new research questions have been posed by the recent rapid changes in the venture capital industry.

Dr. Abhijit Mishra (February 2022) The Union Budget for 1999-2000 stressed the need for higher investment in venture capital activity. As it is difficult to access capital market to raise funds for technology development/ demonstration, especially for small and medium industries, VCF has a major role to play in this area. The National Venture Fund for Software and IT industry (NVFSIT) launched in the current financial year merits mention in this context.

Joshua Lerner (1994) this paper examines three rationales for the syndication of venture capital investments, using a sample of 271 private biotechnology firms. Syndication is commonplace, even in the first-round investments. Experienced venture capitalists primarily syndicate first-round investments to venture investors with similar levels of experience. In later rounds, established venture capitalists syndicate investments to both their peers and to less experienced capital providers.

John H. Cochrane (January 2005) This paper measures the mean, standard deviation, alpha, and beta of venture capital investments, using a maximum likelihood estimate that corrects for selection bias. The bias-corrected estimation neatly accounts for log returns.

William A. Sahlman (October 1990) Venture-capital organizations raise money from individuals and institutions for investment in early-stage businesses that offer high potential but high risk. This paper describes and analyses the structure of venture-capital organizations, focusing on the relationship between investors and venture capitalists and between venture-capital firms and the ventures in which they invest.

STATEMENT OF THE PROBLEM:

Investment as a whole know assume a vital part being developed of the general development of an economy. Venture Capital Funding assist an economy with helping the start- up. In India there has been a blast in the detail up business because of such expansion in fame the need of subsidizing has expanded more than ever. Venture Capital Funding assume an exceptionally critical part here because of funding the ascent of unfamiliar interest in India business has filled quickly lately. Ascend in Venture capital speculation shows the likely ascent of Indian start-up. Bring venture capital in a

start-up also helps in bring experienced leadership and advices from the investor which help the company to grow even further.

SIGNIFICANCE:

Investment venture is huge for business who are trying to raise asset to extend their business. It tends to be useful to propel their innovation to turn out to be economically doable. Funding give the monetary foundations, yet in addition aid the executives, specialized and others. Concentrate on help to dissect the pattern of speculation through investment, to acquire information different stages for funding financing.

OBJECTIVES:

This research study has the following objectives which are as follows-

- 1) To understand the concept of Venture Capital
- 2) To study the growth of venture capital in India from 2010 to 2020
- 3) To found out the system of raising venture capital.

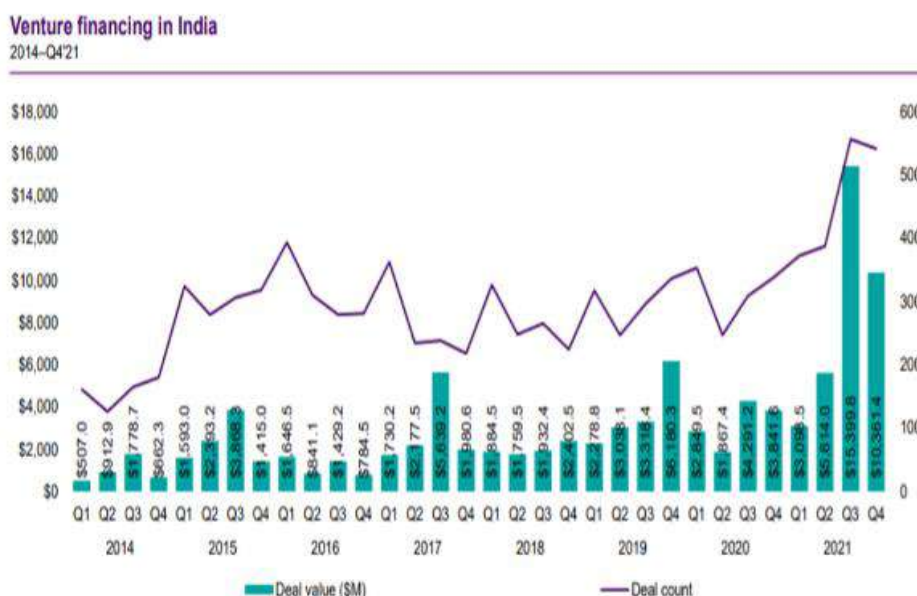
RESEARCH METHODOLOGY:

This study depends on secondary information. The secondary information was gathered from Hand book of SEBI. The Data and Graph are utilized to determine perception for a long time 2010 to 2020. There is an ascent of interest in India. The areas, for example, land, IT, Telecommunication got the most interest before long from 2010 to 2020. There are different justification behind the ascent of financial backer in India such business person's qualities, item or administrations, market attributes, the executives' abilities, monetary thought, financial climate and institutional and administrative climate.

VENTURE CAPITAL IN INDIA 2021:**ANALYSIS & OBSERVATION:**

India sees file 12 months for unicorns in 2021. During 2021, India noticed north of 50 new unicorn companies - a widespread jump from in advance years. During Q4'21, India noticed 14 new unicorns birthed - going from healthtechs PristynCare and CureFit to insurtechs Acko General Insurance, domestic apartment level No Broker, and superior credit score level Slice. The broadness of recent unicorns in India functions the growing expansiveness of India's start-up organic gadget and improvement of recent organizations throughout a scope of areas. India starting a cooler be aware

and in reality warming up in Q4'21 with the IPOs of on-line splendor care merchandise corporation Nykaa and superior installments



organization Paytm. Nykaa brought \$722 million up in its October IPO, at the same time as superior installments organization Paytm held a \$2.4 billion double posting at the BSE \$ NSE in November.

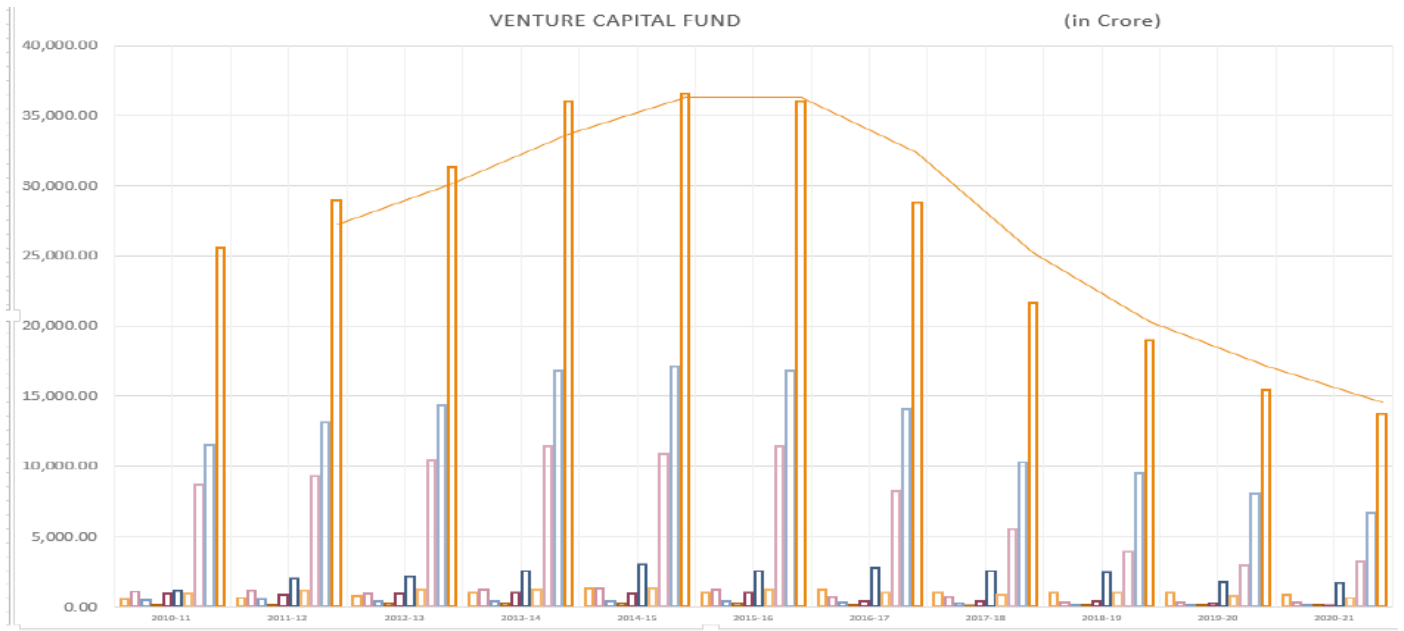
The roaring monetary change in India has in all likelihood aided power proceeded with sales with inside the VC market, as VC monetary backers obtained increasing actuality that they are able to get exceptional approaches out from their pastimes with inside the country.

GROWTH OF VENTURE CAPITAL:

Period	Information Technology	Telecommunication	Pharmaceuticals	Biotechnology	Media/Entertainment	Services Sector	Industrial Products	Real estate	Others	Total
2010-11	564	1,092	457	186	903	1,168	947	8,700	11,559	25,576
2011-12	597	1,183	543	188	853	1,991	1,129	9,300	13,135	28,920
2012-13	744	930	426	210	928	2,130	1,217	10,413	14,339	31,336
2013-14	974	1,255	411	223	1,011	2,553	1,273	11,486	16,800	35,986
2014-15	1,335	1,351	387	204	930	3,008	1,287	10,924	17,137	36,563
2015-16	974	1,255	411	223	1,011	2,553	1,273	11,486	16,800	35,987
2016-17	1,210	707	313	150	391	2,738	1,018	8,190	14,096	28,813
2017-18	1,025	668	217	77	414	2,546	870	5,569	10,294	21,679
2018-19	1,028	327	160	163	367	2,495	970	3,901	9,526	18,938
2019-20	1,015	331	128	162	250	1,802	743	2,930	8,060	15,420
2020-21\$	848	297	128	151	47	1,664	612	3,268	6,726	13,741

\$ as on December 31, 2020

Source: SEBI

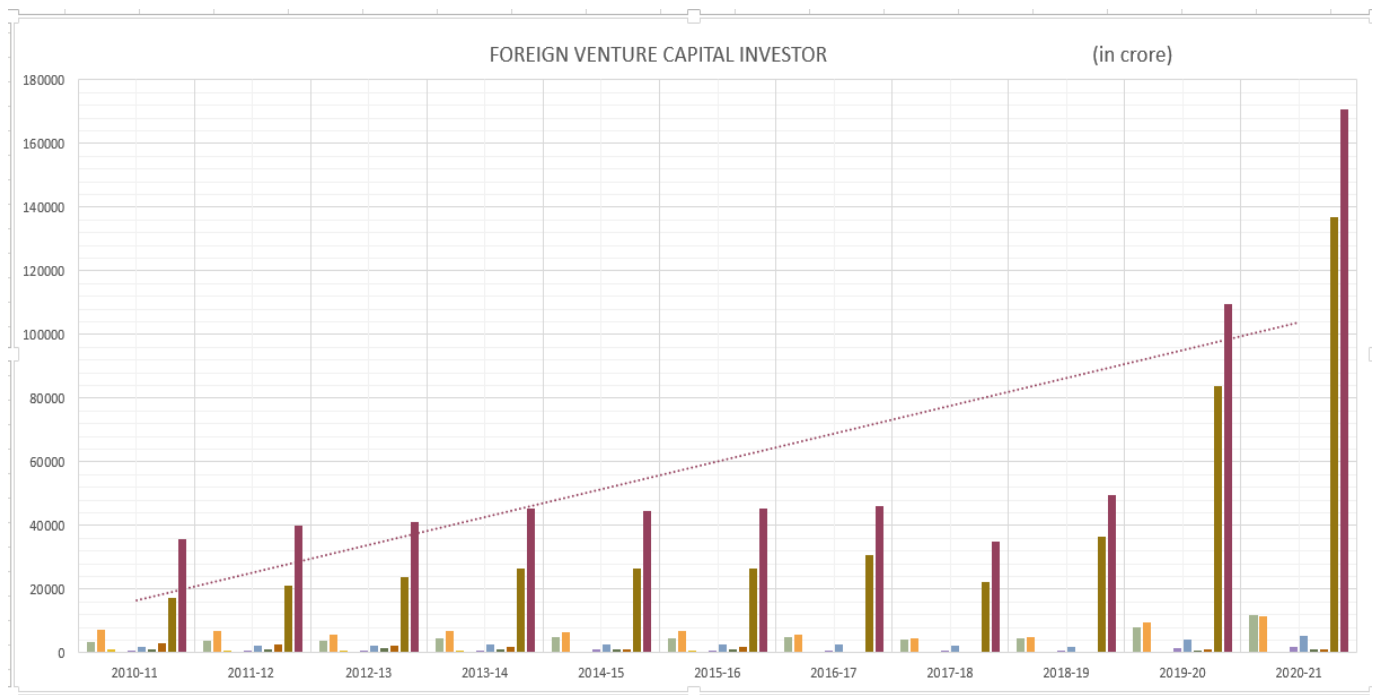


(Source: SEBI Handbook)

The growth of venture capital investment from 2010 to 2020 has shown in the above graph. The above graph represent the venture capital fund invested from various different sectors. The investment has been highest in 2014-15, the venture capital fund in the recent years has reduced this was the result from various factor. The biggest factor is the pandemic which hit almost every sector hard, the global chain has been disrupted greatly thus loss in Venture Capital Investment. As shown in the graph the trending line is in the downward direction. Real Estate has shown the highest investment received through the period of 10 years. Whereas biotechnology has continued to receive the lowest investment during the years.

FVCI (Foreign Venture Capital Investor)										
										(Rs crore)
Period	Information Technology	Telecommunication	Pharmaceuticals	Biotechnology	Media/Entertainment	Services Sector	Industrial Products	Real estate	Others	Total
2010-11	3,436	7,221	976	139	705	1,903	1,102	2,987	17,124	35,593
2011-12	3,863	6,786	774	140	746	2,355	1,193	2,731	21,228	39,815
2012-13	3,909	5,587	744	107	792	2,394	1,506	2,151	23,984	41,174
2013-14	4,529	7,070	688	142	830	2,513	1,319	1,751	26,421	45,263
2014-15	4,965	6,404	471	105	961	2,609	1,298	1,156	26,548	44,516
2015-16	4,529	7,070	688	142	830	2,513	1,319	1,751	26,421	45,262
2016-17	4,805	5,664	192	275	771	2,518	492	485	30,830	46,031
2017-18	4,129	4,511	190	275	585	2,216	445	303	22,252	34,906
2018-19	4,457	4,923	177	276	663	2,092	115	458	36,501	49,661
2019-20	8,193	9,717	244	308	1,444	4,212	818	964	83,853	1,09,753
2020-21\$	11,867	11,668	540	73	2,000	5,349	1,281	1,119	1,36,734	1,70,631

(Source: SEBI Handbook)



Foreign Venture Capital Investor has been on the rise since 2010 till date, the above figure represents sector wise foreign venture capital investor IT and Telecommunication sector has the highest investor. There is various reason for the rise of investor in India such entrepreneur's characteristics, product or services, market characteristics, management skills, financial consideration, economic environment and institutional and regulatory environment.

GLOBAL VENTURE CAPITAL Q4 2021:

VC task round the sector stayed strong in Q4'21 - concluding a thoughts blowing 12 months. The organized accessibility of cash, the big returns visible on exits consistently, and the increasing help of corporates, own circle of relatives places of work, and a scope of different ahead questioning monetary backers has actually brought to the overall appeal of the market.

With the ascent of the Omicron version and the advent of paintings-from-domestic instructions in a wards or the deferral of go back-to-workplace plans in others, the proceeded with pressure to enhance automated contributions and crossover places of work is relied upon to stay immovably at the radar of monetary backers throughout groups. The blend of a strong task weather and the proceeded with power for digitalization will probable help with retaining VC hypothesis excessive heading into Q1'22.

OBSERVATION:

Venture Capital Financing has increase in the recent years. In India there is a major growth in the start-up culture due to this there has been massive increase in investment through venture capital. In India real estate sector is highest which receive highest venture capital investment. Investors through venture capital financing has also been on there rise. Due to pandemic there was a hit in the investment but as the situation normalizes the investment will be more in the coming years. Foreign Venture Capital Investor has been on the rise since 2010 till date and the growth of venture capital investment from 2010 to 2020 is also on the positive note.

CONCLUSION:

Venture is a process of processing, the result of which is uncertain but to which the risk or risk of "loss" lies. "Money" means the resources to start a business. India saw north of 50 new unicorn organizations - an inescapable leap from ahead of time years. During Q4'21, India saw 14 new unicorns birthed. The investment reserve in the new years has decreased this was the outcome from different variable. Regardless of all the obstacle - pandemic, worldwide emergencies and presently the new emergencies in Ukraine has made the securities exchange vacillation definitely however trust still there and the Venture Capital Investment made by financial backer is on the positive note. Speculation made in organization help them monetary as well as with the administration with ability individuals. Subsidizing can expect a more innovative and developmental part in a farming country like India. It could help the reclamation of incapacitated units through people with considerations and come back organization capacities. Another locale where VCFs can expect a basic part in arising countries is the assistance region including the movement business, dispersing, and clinical benefits. The experiences of made countries and the point by point logical examination of subsidizing in India, regardless, show that the going with parts are expected for the accomplishment of interest in any country. They are Entrepreneurial custom, unregulated monetary environment, disinvestments streets, money related forces, wide based tutoring, speculation bosses, headway tries, association industry linkage and inventive work works out.

LIMITATION & SCOPE FOR FURTHER STUDY:

The scope of the study is to understand the Venture Capital Investments in India. The study is based on the Venture Capital Investment in different sectors in India. The study is mainly based on secondary data. The study takes into consideration only the venture capital investment from 2010 to 2020. There are different means of financing are available for an entrepreneur in India but this study covers only venture capital financing other types of financing are excluded in this study.

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A STUDY ON MSME SCHEMES WITH REFERENCE TO WOMEN ENTREPRENEUR

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ABSTRACT:

The purpose of this study was to find out the reasons for Ministry Micro Small Medium Entrepreneur (MSME) in making decisions to become bank customers. Factors suspected of influencing decision making are religions, religiosity, and banks. The method used is quantitative which is limited by research questions. Enterprises face the wrath of the government for taking part in environmental conservation and adoption of sustainable initiatives along with customer demands. The methodology of the proposed work consists survey of existing literatures from different scholarly research articles available in several reputed national and international journals and analysis of secondary data. The paper will focus on an schemes available to women entrepreneurs and help to small businesses for women enterprises.

KEYWORDS: MSME, Women enterprises, Schemes

INTRODUCTION:

Starting a business requires entrepreneurs to work hard, be dedicated and passionate about realizing their business dreams and on this entrepreneurial journey entrepreneur can do with all the assistance that they can get. The Government of India has a number of beneficial schemes for Micro, Small and Medium Enterprises to help them at every step on their journey to bringing their entrepreneurial dreams to fruition. However, often business owners are unaware of these government schemes for MSMEs which can help their businesses tremendously, whether in terms of financial assistance or any other guidance.

The Government of India realizes the importance of encouraging women entrepreneurship. To sustain the growth in women-led businesses, the Government has made many interventions. Strengthening the women entrepreneurship ecosystem- by creating opportunities for capacity building of the women, by imparting skills, by providing increased access to credit and technology, etc - has been on the priority list. The Ministry of MSME,

recognizing the needs of the micro entrepreneurs, launched the Prime Minister's Employment Generation Programme (PMEGP).

This issue presents a few inspiring stories of successful women entrepreneurs who have availed benefits through the schemes of this Ministry, and who have become self-reliant and are inspiring models for the women of younger generation in their communities.

FUNCTIONS OF MSME:

1. Close liaising with various Government Depts. specially MSME Dept. and Departments dealing with Women issues at Centre, State, District and Taluka level.
2. Organizing Workshop/Training sessions to sharpen their skill in the field of Business Finance, Marketing Strategies, Management Techniques etc.
3. Counselling in Preparation of Project Reports choosing right loan product in tune with credit needs, Market Survey & External Credit Rating.
4. Career Guidance Programmes and Workshops on 'Emerging Entrepreneurial Opportunities' for College Students.
5. Design Women special credit products to generate self-employment. 6. Formulation of policy guidelines related to credit delivery to Women Entrepreneurs.

REVIEW OF LITERATURE:

1. Darrene, Harpel and Mayer performed a study on finding the relationship between elements of human capital and self-employment among women.
2. Jalbert, performed a study to explore the role of human entrepreneurs in a global economy.
3. Tambunam, made a study on recent development on women entrepreneurs in Asian developing countries.
4. Das, performed a study on women entrepreneur of SMEs in two states of India, viz, Tamilnadu and Kerla.

SIGNIFICANT OF STUDY:

This study the small women businesses who wants to start a business or who already have their business. The study provides a schemes and loans available for women entrepreneur. MSME are also accountable for one-third of India's manufacturing output. Hence in future by getting MSME registration, a business can get various benefits.

OBJECTIVES:

1. To study the growth of MSME

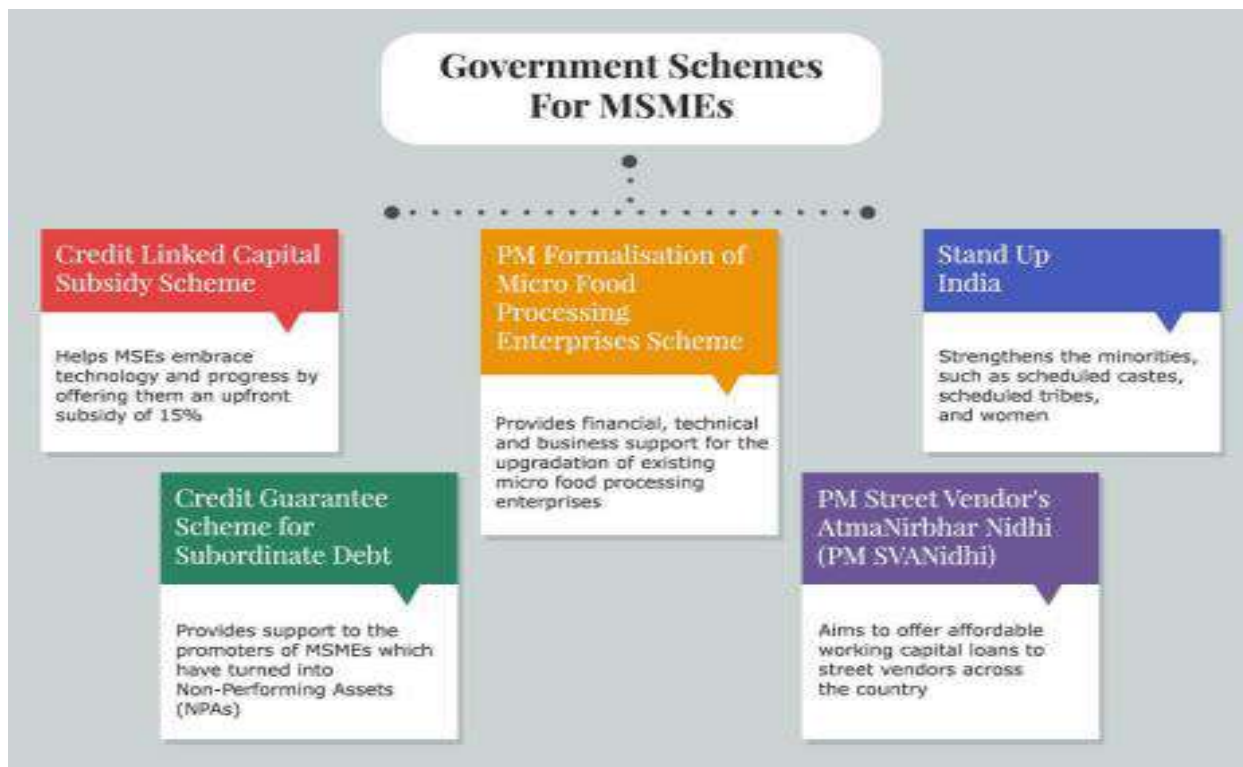
2. To study the scheme of MSME which support the small women entrepreneur
3. To guide and support existing women entrepreneur in expansion their business

RESEARCH DESIGN:

The nature of the study is descriptive. Secondary data was used for the study. It is mainly focused on the schemes available for women under MSME category. The data was taken from the MSME website.

MSME SCHEMES IN INDIA:

MSMEs create a majority of new jobs and help in the economic progress of the country. Women are also taking equal part in entrepreneurship ventures. Although the number of women business owners is substantially less than the male entrepreneurs in India, still Indian has shown some improvement in the growth of women entrepreneurs.



MSME REGISTRATION:

Given below are the steps you will have to follow to register for MSME as a new user
Click on the link given [https://udyamregistration.gov.in/Government-India/Ministry-MSME registration.htm](https://udyamregistration.gov.in/Government-India/Ministry-MSME%20registration.htm).

If you have not registered before, click on 'New Entrepreneurs who are not Registered yet

as MSME or those with EM-II'.

You will have to provide your name and Aadhaar details and click on 'Validate and Generate OTP'. A One-Time Password (OTP) will be sent to your mobile number. Enter the OTP to authenticate. You will then have to provide the details of your PAN, organization you are a part of and validate it.

In the next step, provide your personal details and the details of the industry or plant you are a part of.

After entering all the details, click on 'Submit and Get Final OTP'. An OTP will be sent to your mobile number. Enter the OTP following which you will receive a message for the successful registration of MSME.

MSME FUNDING:

NINE SCHEMES WHICH WILL GIVE WINGS TO WOMEN ENTREPRENEURS:

With gender equality becoming more and more vital around the world, the MSME ministry chose to empower women even more. 1.38 lakh projects have been set up by the women entrepreneurs under Prime Minister's Employment Generation Programme (PMEGP) Scheme since inception up till 23.01.2019. Schemes are

1. Mudra Yojana Scheme
2. TREAD (Trade-Related Entrepreneurship Assistance and Development) Scheme
3. Mahila Udyam Nidhi Scheme
4. Annapurna Scheme
5. Stree Shakti Package for Women Entrepreneurs
6. Bhartiya Mahila Business Bank Loan
7. Dena Shakti Scheme
8. Cent Kalyani Scheme
9. Udyogini Scheme

Special Scheme for Women Entrepreneurs: Cent-Kalyani.

Other Schemes for Women Entrepreneurs: Cent-Artisans Credit Card, Cent-Business Gold

Loan, Cent-Construction Equipment Finance, Cent-Contractor, Cent-Doctor, Cent-Food Processing Plus, Cent-Mortgage, Cent-Mortgage (Educational Institutes), Cent-Professional, Cent-Prosperity (Minority Communities), Cent-Pratsahan, Cent-Sahyog, Cent-Trade, Cent Warehouse Receipt Scheme, Cent-Weaver Credit Card, Cent-Laghu Udyami Credit Card, Small Road Transport Operators.

MSME LOAN INTEREST RATES BY TOP BANKS IN 2022:

Bank Name	Interest rate
ICICI Bank	13% p.a. onwards
Central Bank of India	11.25% p.a. onwards
Indian Bank	9.75% p.a. onwards
Punjab and Sind Bank	9.95% p.a. onwards
State Bank of India	7.65% p.a. onwards
Punjab National Bank	At the discretion of the bank



CONCLUSION:

The women have achieved immense success over the years in changing the perception of a

male-dominated society. In present times women have the skill, talent, and moreover a zeal to create something new. Women are in no way behind the man and are excelling in every sphere of their life. In the past few decades, women are entering the field of entrepreneurship and excelling in it. The government is offering various schemes to help out women entrepreneurs in achieving their goals.

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A STUDY ON THE INFUENTIAL FACTOR OF THE GOLD ETF

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ABSTRACT:

In India, gold ETFs were launched mainly with objective to increase the liquidity for the better market efficiency. The drawback with gold ETFs is liquidity; some ETFs are illiquid, which impacts their buying and selling flexibility. Hence, investors should consider this as a factor while investing in gold ETFs and should stick to funds that are liquid. Traditionally, Indians love to buy gold and they want to possess it. In fact, they hardly go for ETFs which is just a piece of paper for them. But in India, during the last one year, investment in gold ETFs has risen by Rs. 303 crores. Hence, the study on returns, AUM and NAV have been undertaken to identify the growth of gold ETFs in India.

KEYWORDS: ETFs, Gold ETF, Investments

INTRODUCTION:

A Gold ETF is an exchange-traded fund (ETF) that aims to track the domestic physical gold price. They are passive investment instruments that are based on gold prices and invest in gold bullion. Gold Exchange Traded Funds are mutual funds that invest in gold bullion and track gold's domestic prices. Gold ETFs is in dematerialized format and are an alternative to physical gold.

One unit of Gold ETF is equivalent to one gram of gold, and hence the minimum investment is one gram of gold. Gold ETFs are listed and traded on the National Stock Exchange of India (NSE) and Bombay Stock Exchange Ltd. (BSE) like a stock of any company. Gold ETFs trade on the cash segment of BSE & NSE, like any other company stock, and can be bought and sold continuously at market prices.

TYPE:

Some of the most common assets considered by many retail investors are stocks, real estate, bonds, and gold. However, the concept of investing in various types of Exchange Traded Funds (ETFs) in general rarely finds any mention

Equity ETFs, Gold ETFs, International ETFs, Debt ETFs. This are some ETF which are used worldwide

REVIEW OF LITERATURE:

Mukesh Kumar Mukul, Vikrant Kumar and Sougata Ray (2012) mention in their paper that gold investment gave a better monthly return as compared to a diversified equity fund. In terms of portfolio performance measure, we find that gold investment has performed better. However, the most interesting aspect of the analysis is that gold investment has negative correlation with equity investment, and therefore, can act as a perfect instrument for hedging equity investment risk. A combination of gold with equity is likely to reduce the overall risk of the portfolio.

Sathish Kumar,

Published 14 December (2019) mention in their paper that it is found that the standard deviation of the ICICI Prudential Mutual Fund is high when compared to other ETFs, which implies that there is high volatility of returns and the data is not normally distributed. The negative Alpha value states that the ETF did not perform well when compared to the benchmark of gold. Beta values that say the systematic risk is negative for ICICI Prudential Gold Exchange Traded Fund which leads us to conclude that it has not performed well. The performance evaluation tools such as shaper's index, Trainor's Index, Sortino Ratio and Fame's Model shows that ICICI Prudential Gold Exchange Traded Fund is performed better. Lixia Wang Iftikhar Hussain Adnan Ahmed (7July 2010) mention in their paper that China's has significant need of gold ETF as national security strategy, as well as also individuals and institutional need to maximize their profitability. Hence, we can forecast gold ETF in China will have extensive prospects for development. China needs to reconsider its policy regarding Gold ETFs. The Chinese government needs to encourage and facilitate gold buying by the Chinese public. Past trend in China also indicate that Chinese have a long term love for gold. According to Reuters, in last quarter of 2009, China had surpassed India as the world's largest gold buyer, for the first time in recorded history. Though India retained its position quickly, but Chinese consumption still is encouraging. The savings in China are also high. The circumstances in China are favorable for Gold ETFs. If only one ounce purchased by each of the 80 million middle-class Chinese would equate to 2,500 tonnes of gold. This will lead an increase in Chinese gold reserves as well as more opportunities for investors. Concluding the arguments, investments in Gold ETFs in China are significant. The launch of Gold ETFs will

improve the China's ability to deal with problems such as diversification, inflation protection, currency hedging. Due to time and resource constraints, and lack of prior research in the area the study lacks empirical investigation. Future research can investigate it empirically.

SIGNIFICANCE:

this study will be a significance contribution for the new investor who wants to invest in the gold ETF. The study will improve their idea of investing in gold ETF.

OBJECTIVE:

The main purpose of this study is to describe the gold ETF and to provide the information and find out the awareness of retail investors towards gold ETF and it is also suggesting the system of gold ETF.

RESEARCH METHODOLOGY:

The nature of the study is descriptive and analytical. Primary and secondary data were used in this study. The population of the study is investors in Mumbai and sample size is 27. Convinces sampling technique was used to select the sample. The data were collected by preparing questionnaire and through google form. The study area is Mumbai city. The secondary Simple chart and tables were used to analyses and interpret the data.

STEPS OF INVESTMENT:

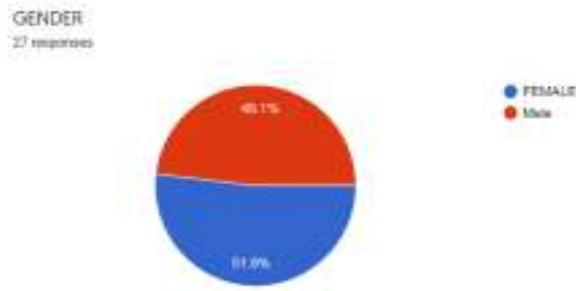
Step 1: Open a De-mat account and a trading account online by submitting PAN, ID proof, and residential proof

Step 2: Select a Gold ETF and order one. There is also an option to choose mutual funds with an underlying gold ETF

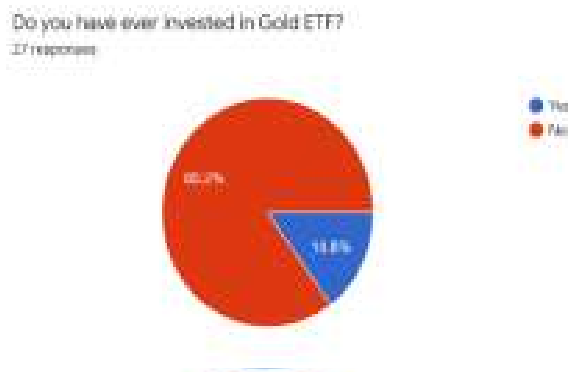
Step 3: You get a confirmation sent to your email and your phone

Step 4: A nominal amount for brokerage will be deducted during the transaction.

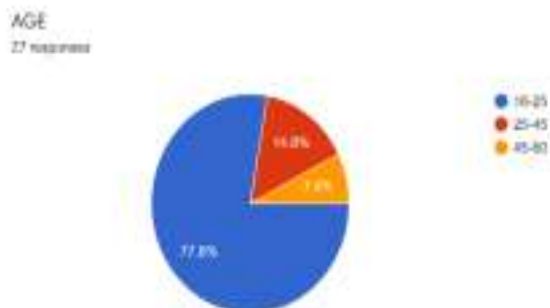
Data Analysis & Interpretation:



Has shown in the chart the main responds are from the women compare to the men
 The main response are from the student side compare to other, has the business men and business women responds are less.
 Has shown most off the people are aware of the gold etf scheme, and very less don't know about that.

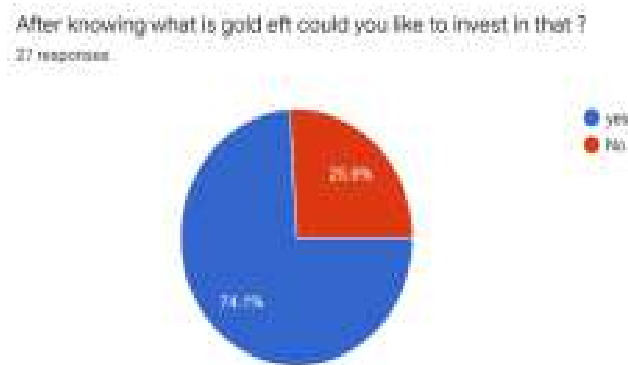


But most of the people have not invested in that scheme and very less people are invested



in that. But people really interest in that has they want to invest in the scheme, but they lack of information.

There are some of the people who are aware



of this scheme, and they are ready to suggest people about them.

But the people are aware of this, they are saying that it could be risky compare to other.

FINDINGS:

1. People from women sector has response a lot.
- 2.the age group of 16-25 are more aware of the scheme
3. Most of the people are aware of it
4. But most of the people don't invest in that
5. Because of the lack of knowledge in them but they are interested
6. But the people who are invested in this, they would like to suggest other people also
- 7.But they are saying that it could be risky if u invest in that.

CONCLUSION:

The closing prices of 11 Gold ETFs listed in the National Stock Exchange have been studied and analyzed. The study examines the performance of gold ETFs through using Sharpe, Treynor and Jensen performance evaluation measures/ratios. The trading in Gold ETFs is increasing over the recent years as the prices of gold are regularly touching new high so the investors are investing in these ETFs. The Sharpe performance measure helps investors to analyses the volatility level of each Gold ETF, Treynor measure will help an investor to decide about assessment of risk over the rate of return through systematic risk or market risk and Jensen measure shows the investor whether the funds are outperformed or underperformed the market index. These three performance measures will help investors in taking effective decisions. From the study I can say that Gold Exchange Traded Fund has a scope in the market for investment. The study concludes that investor can choose the best Gold ETFs for investment. The investor makes choice by taking into consideration the return and risk and based on the performance evaluation measures. From Sharpe measure the SBI Gold ETF is top

performing with higher returns for this the investor need to take higher risk also. From Treynor measure Invesco and Quantum Gold ETFs are recommended for investors when considering market risk aspect and finally Jensen measure shows that all 11 Gold ETFs have positive values which mean all funds outperformed the market index.

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INDIA: THE WORLD FASTEST GROWING STARTUP

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ABSTRACT:

A start-up is started by individual founders or entrepreneurs to search for a repeatable and scalable business model. More specifically, a start-up is a newly emerged business venture that aims to develop a viable business model to meet a marketplace need or problem. Founders design start-ups to effectively develop and validate a scalable business model. Hence, the concepts of start-ups and entrepreneurship are similar. However, entrepreneurship refers all new businesses, including self-employment and businesses that never intend to grow big or become registered, while start-ups refer to new businesses that intend to grow beyond the solo founder, have employees, and intend to grow large. The paper is discussed about the growth and opportunities of start-ups.

KEYWORDS: Start-ups, Entrepreneurship, Business.

INTRODUCTION:

Indian Institutes of Technology (IITs) have been ranked the world's fourth largest producer of billion-dollar start-ups. IIT alumnus accounts for 12 billion-dollar start-ups including Flipkart, Snap deal, Shop Clues, Zomato and Ola. Start-up is defined as “an entrepreneurial venture or a new business in the form of a Company, a partnership or temporary organization designed and search of a repeatable and scalable business model. Start-up India brings excitement and immense possibilities for the future. India acknowledged the stark reality of modern business and its complexity. The Central government tried to address the problems faced by the young,

Start-ups raised a record \$24.1 billion in 2021, a two-fold increase over pre-COVID-19 level in comparison to 2020, there was a 3X increase in the number of high value deals. more than \$6 billion has been raised via public markets with 11 start-up IPOs in 2021. the startup ecosystem saw a 2X gain in cumulative valuation from 2020 to 2021, with an estimate of \$320- \$330 billion, demonstrating the sector’s development and recovery throughout the pandemic.

Need and significance of the study:

The emergence of startup wave in India is a relatively a new phenomenon. Today India is undergoing a fundamental shift with entrepreneurship and innovation is being primary catalyst in job creation and solving everyday problems. A decade ago, there is to be only a handful of start-ups such as Make My Trip.com and Naukari.com. But, now with the success of such as Flipkart, Quicker, Practo, Zomato and Inmboi, the Indian start up eco-system has indeed come a long way.

OBJECTIVE:

1. To understand the government support and life cycle of Start-up.
2. to find out how it is building a build a strong ecosystem for promoting innovation and startups in the country.
3. To analyses the growth and opportunities of start-ups.

THE REVIEW OF LITERATURE:

Dr. Suniti Chandiook (2016) Start-up India has been promised an initial capital of 10K crore over a period of four years from the government. This seed capital is capable of attracting tenfold investment by 2022. Credit guarantee for startup lending is another booster. Start-up plan unfolded on January 16, 2016 in front of domestic and international entrepreneurs. Internet-based businesses from food to fashion, health to education, and travel to payment platforms- all have taken Centre stage recently. Industry expectation from the Government is reciprocal. Few industry leaders who are championing Start-up India want high bandwidth, tax breaks on budget smartphones supporting vernacular languages, simpler KYC norms, and improved access to electricity and credits. They are interacting with policy makers to weed out regulations which act as a brake to investments. Crisp documentation is a pipedream for the young, technology savvy, smart entrepreneur. The developed countries have worked hard to make start-up operations simple. It is this backdrop which makes policy making challenging and interesting enough for the government of the day. The Prime Minister unveiled a 19-point agenda to take forward the start-up culture. The action plan included tax sops, ease-of-doing business, innovation to help entrepreneurs to start-up and grow their business.

RIT Kosovo (A.U.K), The process of interacting among businesses and other organizations has emerged as a complex phenomenon worldwide. People have become more cautious in terms of solving issues in a collaborative manner in order to live more socially cohesive and sustainable lives. This type of synergistic behaviour, driven by social, political and economic factors, is based on a technological pre-condition, that of diffusion of technologies that pave

the way for meaningful activism and effective collaboration⁴. The correlation of such active behaviours and new technologies is stimulating unprecedented organization patterns in the field of economics, politics and daily life. As a result, a deep wave of social innovation is emerging since current economic, environmental and societal challenges prove that systematic reforms are necessary to generate smart, sustainable and inclusive growth. There is also a greater tendency of scholars and practitioners to promote the concept and practices of social innovation as a way of effective use of resources that generate greater social values.

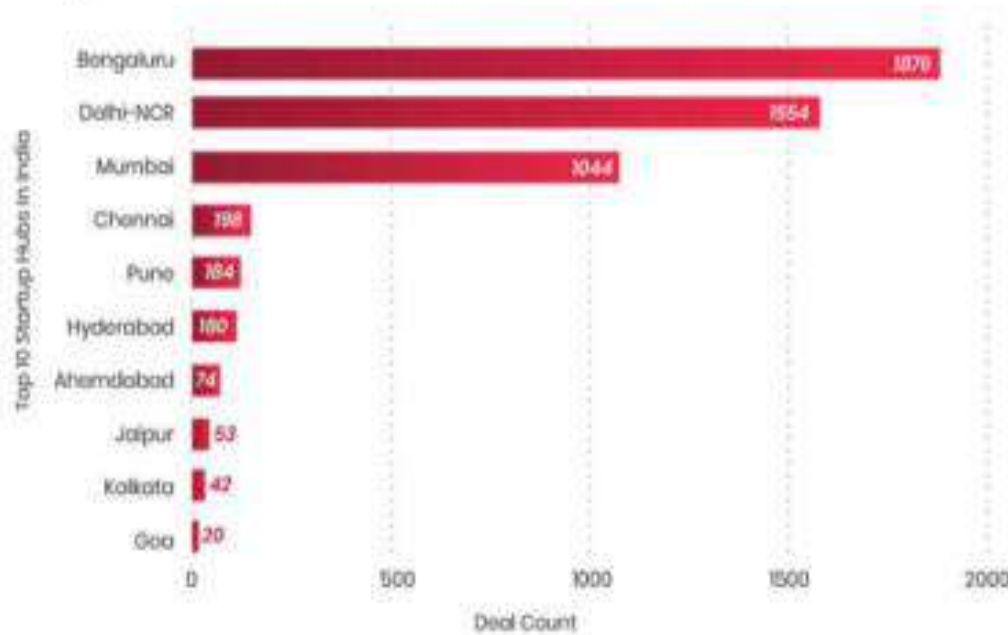
Dr. G Suresh Babu and Dr. K Sridevi (2016) stated that, the Start-up India is a revolutionary scheme that has been started to help the people who wish to start their own business. These people have ideas and capability, so the government will give them support to make sure they can implement their ideas and grow. Success of this scheme will eventually make India, a better economy and a strong nation. Grant Thornton (2016) define, the start-up business as an organization which is an entrepreneurial venture/partnership or a temporary business organization engages in development, production or distribution of new products/services or processes. Institute for Business Value (IBV) (2018), India is booming with young entrepreneurs and start-ups but more than 90 per cent of start-ups in the country are failed because of, lack of innovation, non-availability of skilled workforce and insufficient funding are the main reasons for the high rate of failure. Nipun Malhotra (2018), “The Indian start-up community, ranked third globally in terms of number of start-ups, has been creating new job opportunities and attracting capital investment. We believe that start-ups need to focus on societal problems, including healthcare, sanitation, education, transportation, alternate energy management and others, which would help deal with the issues that India and the world face. These require investments in deep technology and products which are built to scale globally.

RESULT DISCUSSION:

As we closed the first half of 2020, Bengaluru the long-haired start-up capital of India still has its crown intact with a total funding amount of \$28 Bn across 1,876 deals between 2014 to H1 2020.

Top 10 start-up hubs in India as of H12020

83% of the total funding deals between 2014 to H1 2020 came from the top three hubs.



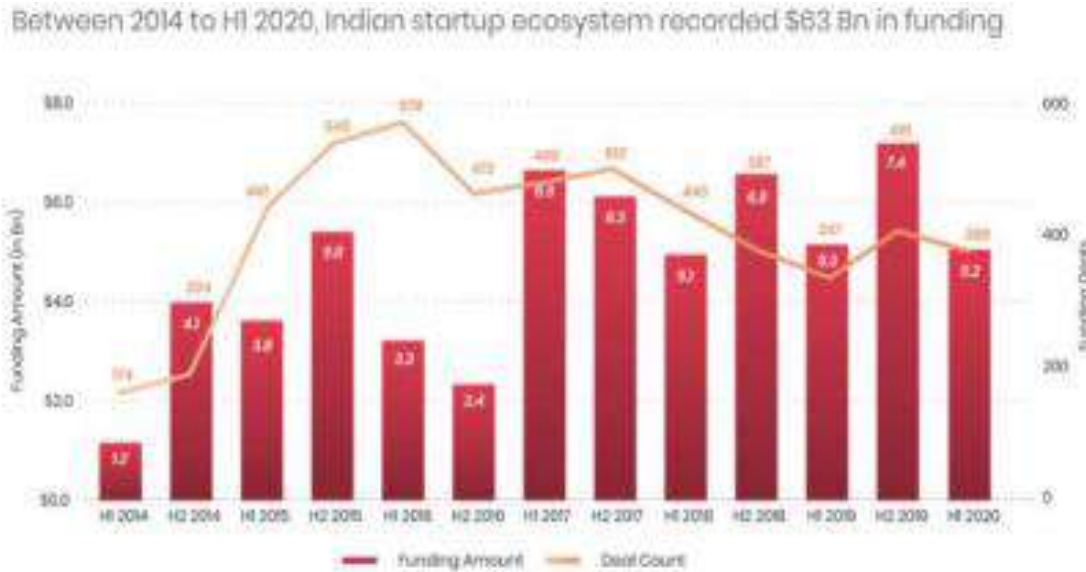
Lately, in addition to the top three hubs (Bengaluru, Delhi NCR and Mumbai) emerging hubs such as Pune and Hyderabad have recorded a compounded annual growth rate (CAGR) of 45% and 37% respectively.

In the tier segment, Jaipur and Goa have earned their spot in the top 10 start-up hubs as of H1 2020 based on the number of funding deals. Interestingly, Jaipur a tier 2 city has outperformed Kolkata— a celebrated tier 1 metro.

The State of Indian Start-up Funding:

It won't come as a surprise to anyone that 2020 has brought some very unprecedented changes in the business world. For Indian start-ups, the funding winter this year has begun in the middle of sweltering summers. While the ecosystem has come a long way since 2014, going through the golden period of funding between 2015 and 2017, after a couple of years of slow but mature growth, 2020 has been a year of decline.

The state of Indian start-up funding:



Over the years, the growth of start-ups has brought in more international investors and boosted their confidence towards India. Fundraising reported by SEBI-registered (Category 1) venture capital funds grew from INR 326 Cr in 2014 to over INR 2,703 Cr in 2019 — an 8x surge in five years. Also, the share of actual capital raised to commitments in 2014 was 35% compared to 61% in 2019, indicating the growing investor interest towards investment opportunities in India.

With such huge money at play, the Indian startup ecosystem has a lot to lose due to the pandemic. It has already left millions of people jobless and created a liquidity crisis in many places. Covid-19 has created a new market in almost every sense, for instance, once-lauded metrics such as the gross revenue and total addressable market has been usurped by sustainability-focused goals like EBITDA and economies of scale.

CONCLUSION:

The current economic scenario in India is on expansion mode. The Indian government is increasingly showing greater enthusiasm to increase the GDP rate of growth from grass root levels with introduction of liberal policies and initiatives for entrepreneurs like ‘Make in India’ ‘Start-up India’, MUDRA etc. ‘Make in India’ is great opportunity for the Indian start-ups. With government going full hog on developing entrepreneurs, it could arrest brain drain and provide an environment to improve availability of local talent for hiring by start-up firms. Small contributions from a number of entrepreneurs would have cascading effect on the economy and employment generation which would complement medium and large industries efforts catapulting India into a fast-growing economy.

The start-up arena has lot of challenges ranging from finance to human resources and from launch to sustaining the growth with tenacity. Being a country with large population, the plethora of opportunities available are many for start-ups offering products and services ranging from food, retail, and hygiene to solar and IT applications for day-to-day problems which could be delivered at affordable prices. It is not out of place to mention that some of these start-ups would become unicorns and may become world renowned businesses by expanding into other developing and underdeveloped

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PERFORMANCE OF COMMODITY DERIVATIVES MARKET IN INDIA

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PERFORMANCE OF COMMODITY

DERIVATIVES MARKET IN INDIA

ABSTRACT:

The history of commodity derivative market in India dates to the ancient times, but the first organized market was established in 1875. However, by mid 1960s government took a drastic step by banning derivatives trade altogether. The commodity derivative market remained virtually absent in next four decades and it made the restart only in early 2000s. Since its reintroduction it is thriving and the current trend shows strong growth potential of the market, although, the actual growth trajectory will depend upon the attitude of the policy makers and the efficiency of the regulatory mechanism. Investing directly in the agricultural products and commodities gives the investor a share in the commodity components

of the country's production and consumption. Money managers and average investors, however, usually prefer commodity derivatives rather than commodity themselves. The average investor does not want to store grains, cattle, crude oil, or metals. A common investment objective is to purchase indirectly those real assets that should provide a good hedge against inflation risk. In India government policy regarding the agricultural commodity futures market keeps fluctuating according to the needs of public (food) policy and the observed inflation trends at any point of time. This is understandably not unique to India but is true of global commodity markets particularly in developing countries. However, despite temporary reversals, the policy thrust in India now is on using the commodity derivatives market to integrate the vast numbers of poor agriculturists into the mainstream financial markets. The debate on how soon and how well the developments in the market for commodity futures in India would serve the cause of poor and

marginal farmers/producers remains wide open.³ But there is no doubt that efficient commodity derivatives markets have immense potential for contributing to price stability and economic development.

KEYWORDS: *Commodity Derivatives, MCX, Future*

INTRODUCTION:

The commodity futures market in India dates to more than a century. The first organized futures market was established in **1875**, under the name and style of 'Bombay Cotton Trade Association' to trade in cotton derivative contracts. This was followed by institutions for futures trading in oilseeds, food grains, etc. The futures market in India underwent rapid growth between the period of First and Second World Wars. As a result, before the outbreak of the Second World War, many commodity exchanges trading futures contracts in several commodities like cotton, groundnut, groundnut oil, raw jute, jute goods, Castor seed, wheat, rice, sugar, precious metals like gold and silver were flourishing throughout the country. In view of the delicate supply situation of major commodities in the backdrop of war efforts mobilization, futures trading came to be prohibited during the Second World War under the Defence of India Act. After independence, especially in the second half of the **1950s** and first half of **1960s**, the commodity futures trading again picked up and there were thriving commodity markets. However, in **mid-1960s**, commodity futures trading in most of the commodities came to be banned and futures trading continued only in two minor commodities, viz, pepper and turmeric. In the **1980s**, the futures trading in some commodities like potato, Castor seed, and Gur (jaggery) was permitted. In **1992**, futures trading in hessian were permitted; in April **1999** futures trading in various edible oilseed complexes were permitted and in May **2001** futures trading in Sugar were permitted. The National Agricultural Policy announced in July **2000** recognised the positive role of forward and futures market in price discovery and price risk management. In pursuance thereof, Government of India, by a notification dated **1.4.2003**, permitted additional 54 commodities for futures trading. With the issue of this notification, prohibition on futures trading has been completely withdrawn. The mechanism of forward trading has developed and advanced considerably in the major trading nations of the world, like USA, UK, France, Japan, etc. In these countries, forward trading has been permitted in many new items/services including financial futures, shipping freights and interest rates etc. In comparison, commodity futures markets in India are much simpler and are at present dealing in single futures contracts in commodities.

REVIEW OF LITERATURE:

There is plethora of studies in the field since the existence of trading took place on commodities in India and the world. The important studies are reviewed and presented in a chronological order and examined the performance of trading, growth, role of price discovery, hedging, regulation prospects to assess the performance of Indian commodity derivatives market specifically. **Shroff (1950)** referred the Government of India draft bill on introduction of forward trading in India and recommended the introduction of forward trading helps in hedging, price stabilization, Reducing the speculation. The study further advised to establish the trading rules and regulations, approved, and managed by Government. **Kamara (1982)** analysed the impact of introduction of commodity futures by comparing the spot market volatility before and after introduction of commodity futures and found no significant change. **Kabra Committee Report (1993)** advised to strengthen the Forward Market Commission (FMC) and Forward **Contract Act, 1952** by means of improving infrastructure, telecommunication, functioning of the exchanges, adequate norms, automation of trading in exchanges, regulation to designing and trading of futures contracts, and establishing strong vigilance committee. **UNCTAD and World Bank Joint Mission Report (1996)** highlighted the role of futures markets as market-based instruments for managing risks and suggested the strengthening of institutional capacity of the regulator and the exchanges for efficient performance of these markets. Further noted that Government intervention was pervasive in some sensitive major commodities like wheat, rice, and sugar and was of the view that future markets in these commodities were unlikely to be viable.

NEED AND SIGNIFICANCE OF THE STUDY:

The study is useful for investors who wants to invest in commodity derivatives of market, and it will provide the knowledge and awareness to investors. Commodity trading plays a crucial role in regulating price discovery and hedging price and risk to safeguard the investor. Commodity market allows producers and consumers of commodity gain access to them in centralized and liquid marketplace. Commodity derivatives are investment tools that allows investors to profit from certain commodities without possessing them

OBJECTIVE:

- 1) To study the concept of derivatives of commodity market
- 2) To study the growth of commodity derivatives in India
- 3) To study the awareness of commodity derivatives market among youngsters
- 4) . To identify the roadblocks in providing interface to execute the commodity derivatives.

RESEARCH METHODOLOGY:

The nature of the study is descriptive and analytical. The study had been conducted by using secondary data. The same was collected from SEBI Handbook. Data from 2010-11 to 2019-20 were used for the study. Only Commodity Futures is taken for this research. Other secondary data were taken from MCX and other website. Table and chart were used to understand the data in a better version.

DATA ANALYSIS & INTERPRETATION:**Trends in Commodity Futures at MCX**

Trends in Commodity Futures at MCX

Period	Agriculture		Metals		Bullion		Energy		Total	
	Volu me (^{'000} tonne s)	Turno ver (₹ crore)	Volu me (^{'000} tonne s)	Turno ver (₹ crore)	Volu me (^{'000} tonne s)	Turno ver (₹ crore)	Volum e (^{'000} tonnes)	Turno ver (₹ crore)	Volum e (^{'000} tonnes)	Turnov er (₹ crore)
2010-11	27,242	1,14,152	1,24,163	25,08,858	710	51,69,268	6,31,870	20,49,224	7,83,986	98,41,502
2011-12	32,465	1,97,781	1,18,499	27,09,758	1,011	99,63,667	7,30,401	27,25,889	8,82,377	1,55,97,095
2012-13	32,926	2,70,295	1,51,396	31,40,109	723	78,07,063	8,16,378	36,63,589	10,01,423	1,48,81,057
2013-14	20,877	1,71,391	85,674	17,26,336	400	42,63,195	4,21,354	24,50,527	5,28,305	86,11,449
2014-15	13,504	1,10,268	62,083	12,74,213	240	21,53,427	4,04,556	16,45,799	4,80,383	51,83,707
2015-16	13,961	1,21,699	89,331	15,05,004	234	20,70,147	8,07,702	19,37,345	9,11,229	56,34,194
2016-17	15,947	1,39,312	93,078	17,53,887	207	20,40,270	6,74,225	19,32,191	7,83,457	58,65,661
2017-18	11,64	1,14,082	95,153	21,12,532	164	13,63,703	5,74,029	17,92,678	6,80,995	53,82,996

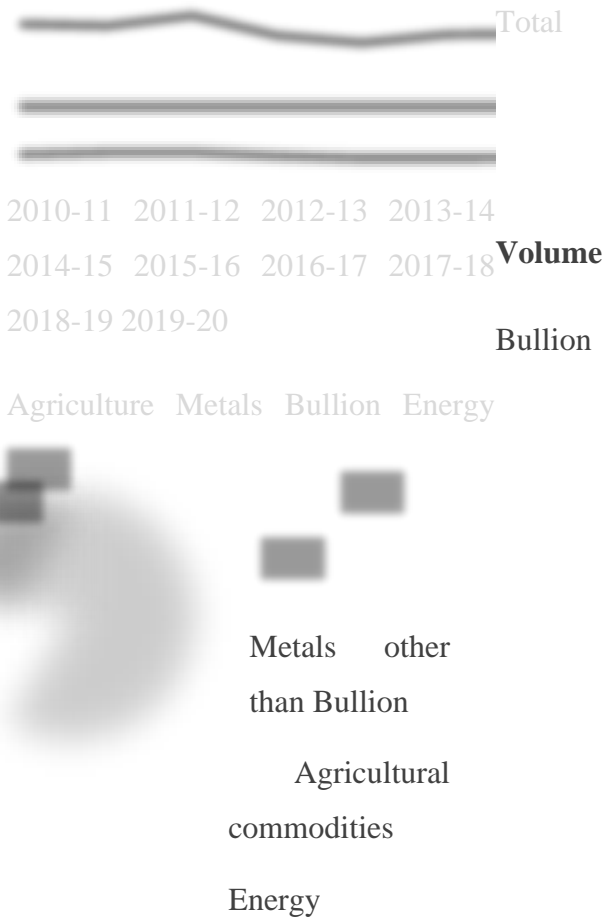
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2018-19	9,662	1,01,233	1,11,475	25,25,601	169	15,13,817	6,71,698	24,50,777	7,93,004	65,91,428
2019-20	11,353	1,00,919	54,813	15,68,294	268	29,15,534	11,88,816	38,13,027	12,55,250	83,97,775

(Sources: SEBI Handbook)

The performance of commodity futures at MCX. The Value of commodity futures market growth during the same period, which is measured by the volume growth rate measured by taking the index values of 2010-20 as base. The growth in market under different segment, viz. agriculture, metal, bullion, energy, and other commodities reveal that bullion had 58 per cent, metal and other bullions had 19 per cent, agricultural commodities had 1 per cent and energy had 22 per cent. Besides the overall turnover is form 2010-20 98,41,502 – 83,97,775.

Commodity Futures Volume From 2010-11 to 2019-20





Has shown in the chart from the year 2010-2020 the future of the commodity has increased but the some of the commodities are the same from the start they have not increased at all like Agricultural but some of them has increased like Bullion, but the metal and energy are same from the years.

OBSERVATION:

The increasing point of the commodity future are followed:

Agriculture -11,353

Metal -54,813

Bullion – 268

Energy -11,88,816

So, the highest of the commodity is the energy has comer to other.

CONCLUSION:

Commodity derivatives have a crucial role to play in the price risk management process especially in any agriculture dominated economy. Derivatives like forwards, futures, options, swaps etc are extensively used in many developed as well as developing countries in the world. However, they have been utilized in a very limited scale in India the production, supply and distribution of many agricultural commodities are controlled by the government and only forwards and futures trading are permitted in certain commodity items.

LIMITATION:

This study is conducted by using secondary data only. Data has been taken from MCX only and Option data was not considered for this study.

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THE IMPACT OF ELECTRONIC BANKING ON CUSTOMER SATISFACTION

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THE IMPACT OF ELECTRONIC BANKING ON CUSTOMER SATISFACTION

ABSTRACT:

The Study presents what impact electronic banking has on there customers and why customers are afraid to do electronic banking. In this study there are many important things about electronic banking and how banks satisfy there needs and wants . There are also importance of Electronic banking through we can learn why electronic banking should be use and why it is useful. There is also concept of customer satisfaction through which we can understand what customer wants. In this study there are also problems faced by the banks to improve there services from other banks. There are also challenges and opportunities of e-banking through which customer are afraid to use e-banking. In short I want to show that there are some customers who are comfortable to use e banking and there are some customer who are afraid of using e-banking due to certain reasons. In this study I have shown both positive and negative sides of banks.

KEYWORDS: *E-banking, Customer satisfaction, Impact*

INTRODUCTION:

Nowadays electronic banking is very common in India, specially due to the pandemic of covid 19. Every person uses electronic banking for some transaction. It can be used for internet banking service, telebanking services, mobile banking services etc. Many banks provide wide range of E banking services. Banking industries are now modern due to the new technology.

The main factor of this is customer satisfaction from the electronic banking services and what customer requires from the service of bank. Banks try there to provide best services to the customers and satisfy them. So the service quality has become important factor to determine the

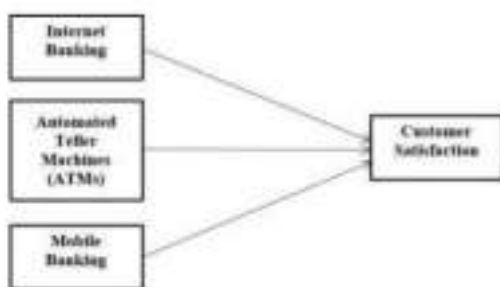
customers liking and disliking for a particular services. Banks have there apps so the customers can use the services provided by them. Apps like Google pay and phone pe are also used for transfer of money. Every shop and vehicle now has a online payment option, from small shops to taxi and auto rickshaw. People have now using online payments only therefore paper money usage have been decreased.

IMPORTANCE OF ELECTRONIC BANKING:

Electronic banking helps a customer to access his account and transact from anywhere at any time at hid convenience. Electronic banking helps the customer not to visit the branch for every transaction its saves both time and money. In traditional banking system geographical distances could hinder certain transaction. It also helps business that is like the staff members can access the accounts quickly using an online interface or internet banking. This allows them to check the accounting activities and also make sure the smooth functioning of the account. Electronic banking helps to enhance productivity. It permits the automation of regular monthly payments and a host of other feature to enhance the productivity of the business.

CONCEPT OF CUSTOMER SATISFACTION:

Electronic Banking is more popular in young customers between 18 to 40-50 years. But there are some customers who like the traditional method of banking and money transactions. The young



customers now don't keep money in their pocket due to the e-banking and e-payment method. But on other hand elderly customers like to use the paper money. Electronic banking is made so that there will easy transactions and easy to transfer money for one person to another, so the

people don't have to go to the bank and get into

the line. Banks try their best to provide their best services to the customer so the customers are satisfied.

CHALLENGES OF ELECTRONIC BANKING:

1. **Security risk-** The problem related to the security has become one of the major concerns for banks. A large group of customers refuse to obtain for E-banking facilities due to uncertainty and security concern. According to IAMAI Report (2006), 43% of the internet users are not using internet banking in India due to security concern. So it's a big challenge for the marketers and make consumers satisfied regarding security concerns.
2. **The trust Factor-** Trust is the biggest hurdle to electronic banking for most of the customers. Conventional banking is preferred by the customer because of lack of the trust on the online security. They have a perception that the online transaction is risky due to which frauds can take place. While using e-banking a lot of question arises in the mind of the customer as: Did the transaction go through? Did I push the transfer button ones or twice? Trust is among the significant factor which influence the customers.
3. **Customer Awareness-** Awareness among the customers about the e-banking facility and procedure is still at lower side in India. Banks are not able to disseminate proper information about the use , benefits and facility of e-banking. Less awareness of new technology and there benefits is among one of the most ranked barrier in the development of e-banking.
4. **Privacy risk-** The risk of disclosing private information and fear of identity theft is one of the major factor that inhibit the consumers while opting for e-banking services. Most of the consumers believe that using online banking services make them vulnerable to identity theft. According to the studies consumers “worry about their privacy and feel that the bank may invade there privacy by utilizing there information for marketing and other secondary purpose without consent of customers.

OPPORTUNITIES IN ELECTRONIC BANKING:

1. **Multiple channel-** Banks can offer so many channel to access there banking and other services such as ATM, local branches, telephone/mobile banking etc. to increase the banking services.
2. **Competitive Advantages –** The benefits of E-banking provides a competitive advantages to the bank over the other players. The implementation of e-banking is beneficial for bank in many ways as it reduces cost to the bank, improves customer relation etc. the benefits of e-banking have become opportunity for the banks to manage their banking business in better way .
3. **Worthy customer Services-** Worthy customer services are the best brand ambassador for any bank for growing its business . Every engagement with customer is an opportunity to develop a customer faith in the bank. While increasing competition customer service has become the backbone for judging the performance of the bank.

- 4. Internet banking-** It is clear that online finance will pick up and there will be increasing convergence in terms of product offering banking services share trading, insurance, loans, based on the data warehousing and data mining technology. Anytime anywhere banking will become common and will have upscale, such upscaling could include banks launching separate banking services apart from traditional banking services.

PROBLEM STATEMENT:

All banks compete with each other to attract their customer in different ways through providing convenient, accessible and acceptable services or products to the customer. Despite the efforts of the bank to ensure that customers reap the benefits of electronic banking. The banks has met with complains from the customer regarding , machine out of order, machine out of cash, no printing statement, cards get blocked, frequently breakdown of ATM services, all are available through internet banking, mobile banking, and ATM banking. The purpose of this study was to find out internet banking services or electronic banking services and its different dimensions that have positive and negative impact on the customer satisfaction.

SIGNIFICANE OF STUDY:

Through this study customers are can be aware about the electronic banking and its benefits. The study is useful to the customers to know the services provided by the electronic banking. The study explains about various electronic banking for example internet banking, ATM, mobile banking

OBJECTIVE:

- The main objective of this study is to understand the customers satisfaction with reference to the electronic banking.
- To understand the relationship between the customer and bank and the quality of the banking services.
- To study the growth of electronic banking.

REVIEW OF LITERATURE:

Lustsik (2004) mention in there paper e-Banking services as a variety of e-channels for doing banking transactions through Internet, telephone, TV, mobile, and computer. Banking customers' desires and expectations with regard to service are expanding, as technology advances and improves. These days, the customer wants to operate and do his or her banking transactions at any location without going to the bank, at any time without being limited to the bank's working hours, and to do all his or her payments (purchasing, bills, stocks) in a fast and cost-effective way.

Consequently, financial services quality ought to be characterized by independence, elasticity, freedom, and flexibility, to accommodate these desires

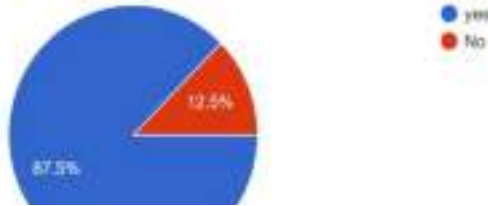
Khalfan & Alshawaf, (2004) mention in there paper, E-Banking is still mostly limited to the Internet and mobile telephones. This is due in part to slow development of IT infrastructure in the country. With that in mind, we are defining the concept as the ability to conduct banking and financial transactions electronically via the Internet or mobile telephone applications. **Fozia(2013)** mention in there paper in a study on "A Comparative Study of Customer Perception toward E banking Services Provided By Selected Private & Public Sector Bank in India" has determined the customer's perception toward the e-banking services. The result of the study clearly shows that different age group of customer and different occupation group of customers have different perception toward the e-banking services. The results also propose that demographic factors impact significantly internet banking behavior, specifically, occupation and age.

RESEARCH METHODOLOGY:

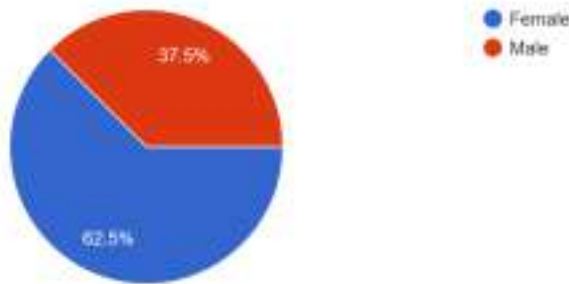
This study both depends on secondary data and primary data. Primary data was collected from bank user in Mumbai. The study area is Mumbai. The study period is January 2022 to February 2022. Population of the study is college students of Mumbai. Convenience sample was used to identify the sample. Sample size is 24. The secondary information was gathered from the different websites. Ratio was used to analyses the data and chart was used to present the data in a better understandable manner.

DATA ANALYSIS:

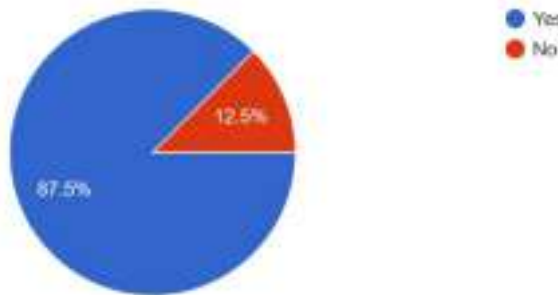
Do you have a bank account?
24 responses



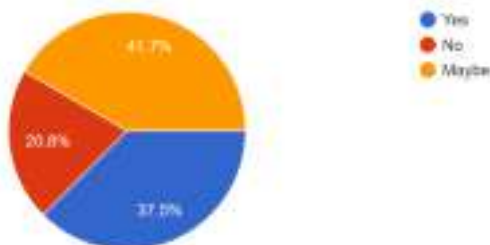
Gender
24 responses



Do you know about the electronic banking?
24 responses



Do you get any benefits by using electronic banking?
24 responses



From this analysis it is concluded that 87.5% people have bank account and 12.5% don't have bank account from this it is seen that most of the customers have bank account.

From this analysis it is concluded that 62.5% are female in this analysis. Only 37.5% are male in this analysis.

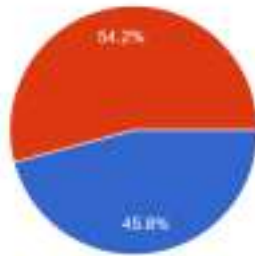
From this analysis it is seen that 87.5% people know about the electronic banking. There are still 12.5% customers who don't know about the electronic banking

don't get the benefits from there bank by using electronic banking.

From this analysis it is seen that 45.8% of customers use electronic banking on daily bases

and 54.2% of customers don't use the e-banking on daily bases.

If yes, then do you use it on daily bases
24 responses



● Yes
● No

FINDINGS:

From the above analysis it is concluded that most of the customers use e-banking are females. Most of the customers use the e-banking on daily bases. There are most customers who know about the e-banking system. Customers Don't know

if the bank gives any benefits to the customer by using e-banking

CONCLUSION:

From the above information it is concludes that there are more youth using the electronic banking. There are challenges and opportunities in electronic banking and banks also have to satisfy there customers through their services. From this case study I want to tell that customers are satisfied through the services given by the bank and some of customers are not satisfies due to lack of usage of technology or some customers are afraid to electronic banking due to the fraud. Through this study we understand that most of the customers are comfortable using the electronic banking.

LIMITATION AND SCOPE OF FURTHER STUDIES:

This study used very less sample as compared with population. The study outcome is limited to Mumbai area. There may be a bias while filling data. The same study can be conducted in different region and with different latest products of banking.

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INDIA: THE WORLD FASTEST GROWING STARTUP

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ABSTRACT:

A start-up is started by individual founders or entrepreneurs to search for a repeatable and scalable business model. More specifically, a start-up is a newly emerged business venture that aims to develop a viable business model to meet a marketplace need or problem. Founders design start-ups to effectively develop and validate a scalable business model. Hence, the concepts of start-ups and entrepreneurship are similar. However, entrepreneurship refers all new businesses, including self-employment and businesses that never intend to grow big or become registered, while start-ups refer to new businesses that intend to grow beyond the solo founder, have employees, and intend to grow large. The paper is discussed about the growth and opportunities of start-ups.

KEYWORDS: Start-ups, Entrepreneurship, Business.

INTRODUCTION:

Indian Institutes of Technology (IITs) have been ranked the world's fourth largest producer of billion-dollar start-ups. IIT alumnus accounts for 12 billion-dollar start-ups including Flipkart, Snap deal, Shop Clues, Zomato and Ola. Start-up is defined as “an entrepreneurial venture or a new business in the form of a Company, a partnership or temporary organization designed and search of a repeatable and scalable business model. Start-up India brings excitement and immense possibilities for the future. India acknowledged the stark reality of modern business and its complexity. The Central government tried to address the problems faced by the young,

Start-ups raised a record \$24.1 billion in 2021, a two-fold increase over pre-COVID-19 level in comparison to 2020, there was a 3X increase in the number of high value deals. more than \$6 billion has been raised via public markets with 11 start-up IPOs in 2021. the startup ecosystem saw a 2X gain in cumulative valuation from 2020 to 2021, with an estimate of \$320- \$330 billion, demonstrating the sector’s development and recovery throughout the pandemic.

Need and significance of the study:

The emergence of startup wave in India is a relatively a new phenomenon. Today India is undergoing a fundamental shift with entrepreneurship and innovation is being primary catalyst in job creation and solving everyday problems. A decade ago, there is to be only a handful of start-ups such as Make My Trip.com and Naukari.com. But, now with the success of such as Flipkart, Quicker, Practo, Zomato and Inmboi, the Indian start up eco-system has indeed come a long way.

OBJECTIVE:

1. To understand the government support and life cycle of Start-up.
2. to find out how it is building a build a strong ecosystem for promoting innovation and startups in the country.
3. To analyses the growth and opportunities of start-ups.

THE REVIEW OF LITERATURE:

Dr. Suniti Chandiook (2016) Start-up India has been promised an initial capital of 10K crore over a period of four years from the government. This seed capital is capable of attracting tenfold investment by 2022. Credit guarantee for startup lending is another booster. Start-up plan unfolded on January 16, 2016 in front of domestic and international entrepreneurs. Internet-based businesses from food to fashion, health to education, and travel to payment platforms- all have taken Centre stage recently. Industry expectation from the Government is reciprocal. Few industry leaders who are championing Start-up India want high bandwidth, tax breaks on budget smartphones supporting vernacular languages, simpler KYC norms, and improved access to electricity and credits. They are interacting with policy makers to weed out regulations which act as a brake to investments. Crisp documentation is a pipedream for the young, technology savvy, smart entrepreneur. The developed countries have worked hard to make start-up operations simple. It is this backdrop which makes policy making challenging and interesting enough for the government of the day. The Prime Minister unveiled a 19-point agenda to take forward the start-up culture. The action plan included tax sops, ease-of-doing business, innovation to help entrepreneurs to start-up and grow their business.

RIT Kosovo (A.U.K), The process of interacting among businesses and other organizations has emerged as a complex phenomenon worldwide. People have become more cautious in terms of solving issues in a collaborative manner in order to live more socially cohesive and sustainable lives. This type of synergistic behaviour, driven by social, political and economic factors, is based on a technological pre-condition, that of diffusion of technologies that pave

the way for meaningful activism and effective collaboration⁴. The correlation of such active behaviours and new technologies is stimulating unprecedented organization patterns in the field of economics, politics and daily life. As a result, a deep wave of social innovation is emerging since current economic, environmental and societal challenges prove that systematic reforms are necessary to generate smart, sustainable and inclusive growth. There is also a greater tendency of scholars and practitioners to promote the concept and practices of social innovation as a way of effective use of resources that generate greater social values.

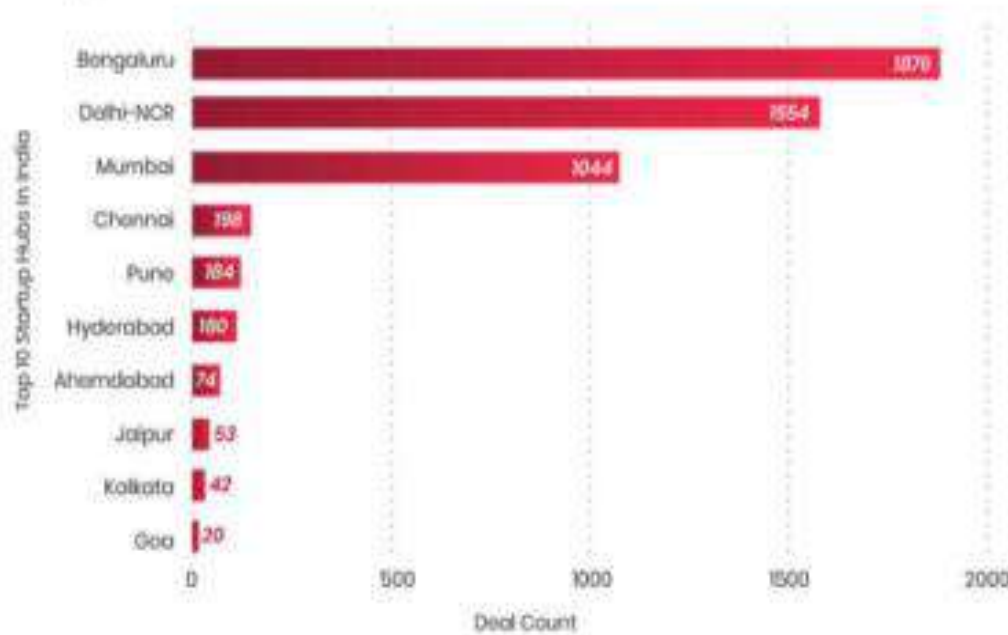
Dr. G Suresh Babu and Dr. K Sridevi (2016) stated that, the Start-up India is a revolutionary scheme that has been started to help the people who wish to start their own business. These people have ideas and capability, so the government will give them support to make sure they can implement their ideas and grow. Success of this scheme will eventually make India, a better economy and a strong nation. Grant Thornton (2016) define, the start-up business as an organization which is an entrepreneurial venture/partnership or a temporary business organization engages in development, production or distribution of new products/services or processes. Institute for Business Value (IBV) (2018), India is booming with young entrepreneurs and start-ups but more than 90 per cent of start-ups in the country are failed because of, lack of innovation, non-availability of skilled workforce and insufficient funding are the main reasons for the high rate of failure. Nipun Malhotra (2018), “The Indian start-up community, ranked third globally in terms of number of start-ups, has been creating new job opportunities and attracting capital investment. We believe that start-ups need to focus on societal problems, including healthcare, sanitation, education, transportation, alternate energy management and others, which would help deal with the issues that India and the world face. These require investments in deep technology and products which are built to scale globally.

RESULT DISCUSSION:

As we closed the first half of 2020, Bengaluru the long-haired start-up capital of India still has its crown intact with a total funding amount of \$28 Bn across 1,876 deals between 2014 to H1 2020.

Top 10 start-up hubs in India as of H12020

83% of the total funding deals between 2014 to H1 2020 came from the top three hubs.



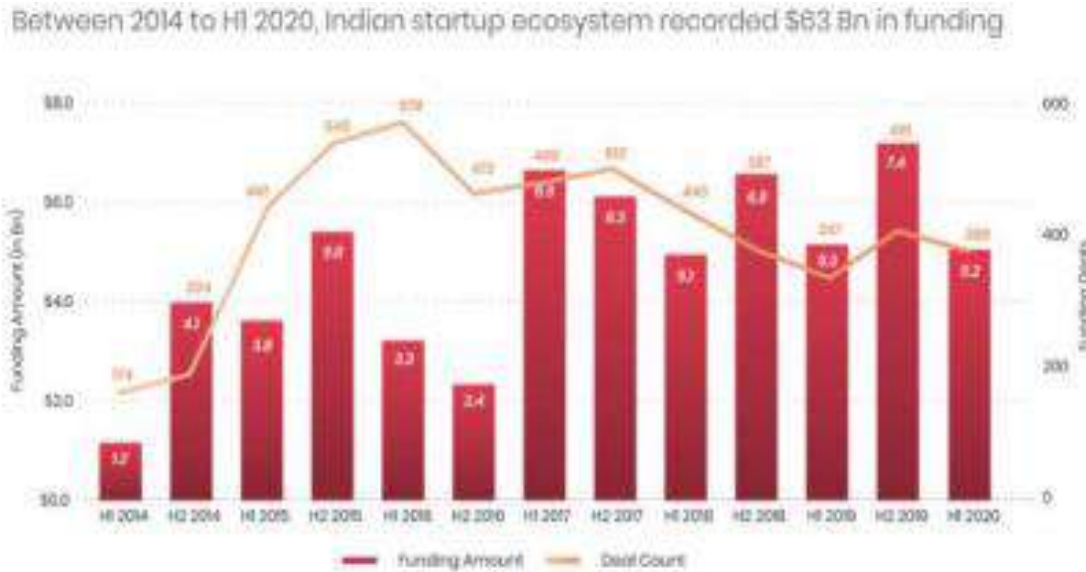
Lately, in addition to the top three hubs (Bengaluru, Delhi NCR and Mumbai) emerging hubs such as Pune and Hyderabad have recorded a compounded annual growth rate (CAGR) of 45% and 37% respectively.

In the tier segment, Jaipur and Goa have earned their spot in the top 10 start-up hubs as of H1 2020 based on the number of funding deals. Interestingly, Jaipur a tier 2 city has outperformed Kolkata— a celebrated tier 1 metro.

The State of Indian Start-up Funding:

It won't come as a surprise to anyone that 2020 has brought some very unprecedented changes in the business world. For Indian start-ups, the funding winter this year has begun in the middle of sweltering summers. While the ecosystem has come a long way since 2014, going through the golden period of funding between 2015 and 2017, after a couple of years of slow but mature growth, 2020 has been a year of decline.

The state of Indian start-up funding:



Over the years, the growth of start-ups has brought in more international investors and boosted their confidence towards India. Fundraising reported by SEBI-registered (Category 1) venture capital funds grew from INR 326 Cr in 2014 to over INR 2,703 Cr in 2019 — an 8x surge in five years. Also, the share of actual capital raised to commitments in 2014 was 35% compared to 61% in 2019, indicating the growing investor interest towards investment opportunities in India.

With such huge money at play, the Indian startup ecosystem has a lot to lose due to the pandemic. It has already left millions of people jobless and created a liquidity crisis in many places. Covid-19 has created a new market in almost every sense, for instance, once-lauded metrics such as the gross revenue and total addressable market has been usurped by sustainability-focused goals like EBITDA and economies of scale.

CONCLUSION:

The current economic scenario in India is on expansion mode. The Indian government is increasingly showing greater enthusiasm to increase the GDP rate of growth from grass root levels with introduction of liberal policies and initiatives for entrepreneurs like ‘Make in India’ ‘Start-up India’, MUDRA etc. ‘Make in India’ is great opportunity for the Indian start-ups. With government going full hog on developing entrepreneurs, it could arrest brain drain and provide an environment to improve availability of local talent for hiring by start-up firms. Small contributions from a number of entrepreneurs would have cascading effect on the economy and employment generation which would complement medium and large industries efforts catapulting India into a fast-growing economy.

The start-up arena has lot of challenges ranging from finance to human resources and from launch to sustaining the growth with tenacity. Being a country with large population, the plethora of opportunities available are many for start-ups offering products and services ranging from food, retail, and hygiene to solar and IT applications for day-to-day problems which could be delivered at affordable prices. It is not out of place to mention that some of these start-ups would become unicorns and may become world renowned businesses by expanding into other developing and underdeveloped

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A STUDY OF SHORT TERM STOCK TRADING THROUGH

TECHNICAL ANALYSIS

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ABSTRACT:

Technical analysis is an art or science of planting the stock information like price movements, trading volume and market scenario in the form of charts for the purpose of forecasting the future price trends. It can aid the investors to anticipate what is 'possible' to happen to prices over the short-run time. And also helps in understanding the intrinsic value of shares and knowing whether the scripts are undervalued or overvalued by scrutinizing the turning points of the market. This research study attempts to apply technical analysis tools & techniques on selective scripts to assist precise investment decisions in the Indian equity/stock market. This analytical study is purely based on secondary data which had been collected from the National Stock Exchange (NSE) website, journals and magazines. For the purpose of analysis Moving Average Convergence Divergence (MACD) technique is used to identify whether the scripts are technically strong or not. It facilitates investors' to recognize the current trend and risks associated with the script at par with the market. This paper aims at carrying out Technical analysis of the securities of selected companies and to assist investment decisions in the Indian stock market. And technical analysis provides unbiased solutions in a biased world.

Keywords

INTRODUCTION:

Prices of scrip in the stock market oscillate daily on the account of continuous trading (Buying and Selling). Technical analysis applied to the scrip's to identify the current trends and risks associated with the script at par with the market. "Technical analyses believe that the historical performance of scripts & markets are indicators of future performance." Mainly the movement of technical analysis examines the four dimensions, namely price, volume, time and breadth. Changes in price reflect changes in investor attitude. And price, the first dimension, indicates the attitude level of investors. It is helpful to observe price indicators such as price advances versus declines and price pattern of shares compared to the market index. Volume, the second dimension, reflects the intensity of changes in investor attitudes. The level of enthusiasm is implied by a price rise on low volumes and vice versa. Time, the third dimension, measures the length of cycles in investor psychology. Change in confidence goes through distinct cycles, some long and some short, as investors' swing from excessive optimism towards deep pessimism.

OBJECTIVES OF THE STUDY:

- To study investors perception towards short term trading and long term investing
- To study various trading strategies and their risk reward ratio.
- To study significance and impact of technical analysis in short term trading in stock Markets

HYPOTHESIS OF THE STUDY:

H O : There is no significant impact of technical analysis on efficient short term trading in stock markets.

H 1 : There is significant impact of technical analysis on efficient short term trading in stock markets.

RESEARCH METHODOLOGY:

The research design was based on analytical research. In this research, the researcher has to use facts or information already available, and analyze these to make a critical evaluation.

Methods of data collection: The research is fully based upon secondary data, and hence, the data has been collected from NSE India and various books, magazines and websites.

Time period analysis: The data was collected for the period of October 2021 to January 2022.

Sample size: All the listed companies in the National Stock Exchange, 10 companies which are actively traded in NSE were taken on stratified sampling basis for the study. The selected companies are ICICI bank, CIPLA, Asian paint, Tata steel, Coal India, Maruti, ITC,

Statistical tools used for study: The analysis of data is carried out by Moving Average Convergence Divergence (MACD) technique.

Moving Average Convergence Divergence (MACD) Developed by Gerald Appel in the last seventies, moving average convergence divergence (MACD) is one of the simplest and most effective momentum indicators available. The MACD indicator is one of the most popular technical analysis tools. MACD fluctuates above and below the zero line as the moving averages convergence, Cross and divergence. Standard MACD is 12-day exponential moving average (EMA) less the 26-day EMA. A 9-day EMA of MACD is plotted alongside between MACD and its 9-day EMA, the signal line. Convergence occurs when the moving averages move towards each other. Divergence occurs when the moving averages move away from each other.

Calculation

MACD line = (12-day EMA – 26-day EMA)

Signal line = 9-day EMA of MACD line

MACD histogram = MACD line – Signal line.

LIMITATIONS:

- This study can be used only for short run decision making.
- Technical analysis only for one year is undertaken.
- For doing this analysis the researcher has taken into consideration only limiter factors.

DATA ANALYSIS:

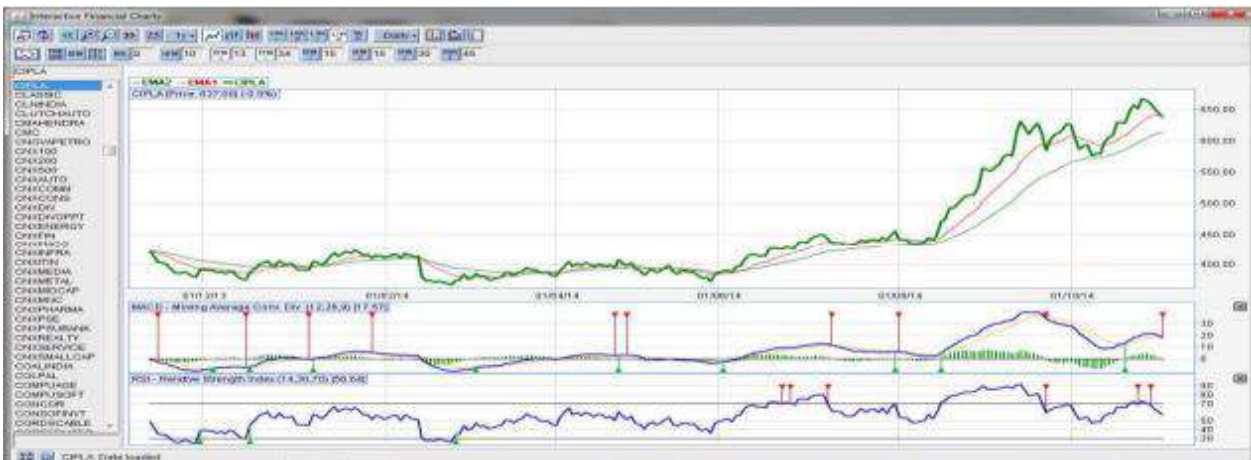
ICICI BANK; The Chart 1 represents EMA & MACD histogram of the ICICI BANK scrip. It has been transacted 7 times in a year with total returns of 73.24% and an average transaction return of 10.46% by the Average holding period of 40.14 days and longest holding period was 103 days. The largest gains of 15.6% were achieved during a period of 34 days.



Source: Computation based on NSE data. Chart No:

.1. Stock Price movement of ICICI Bank

CIPLA; The Chart 2 represents EMA & MACD histogram of the CIPLA scrip. It has been transacted 7 times in a year with total returns of 73.24% and an average return of 10.46% by the Average holding period of 40.14 days and the longest holding period was 103 days. The largest gains of 15.6% were achieved during a period of 34 days.



Source: Computation based on NSE data

Chart No:2. Stock Price

movement of CIPLA

ASIAN PAINT: The Chart 3 represents EMA & MACD histogram of the ICICI BANK scrip. It has been transacted 15 times in a year with total returns of 66.92% and an average transaction return of 4.46% by the Average holding period of is 21.13 days and longest holding period was 48 days. The largest gains of 14.31% were achieved during a period of 21 days.



Source: Computation based on NSE data.

Chart No: .3. Stock Price movement of ASIAN PAINT

TATA STEEL ; The Chart 4 represents EMA & MACD histogram of the TATA STEEL scrip. It has been transacted 10 times in a year with total returns of 121.48% and an average transaction return of 12.14% by the Average holding period of 33.6 days and longest holding period was 72 days. The largest gains of 28.7% were achieved during a period of 53 days



Source: Computation based on NSE data

. Chart No: 4. Stock Price movement of TATA

STEEL

COAL INDIA; The Chart 5 represents EMA & MACD histogram of the COAL INDIA scrip. It has been transacted 7 times in a year with total returns of 78.45% and an average transaction return of 11.12% by the Average holding period of 44.14 days and longest holding period was 112 days. The largest gains of 39.74% were achieved during a period of 112 days.



Source: Computation based on NSE data.

Chart No: 5. Stock Price movement of COAL INDIA

NMDC: The Chart 6 represents EMA & MACD histogram of the NMDC scrip. It has been transacted 9 times in a year with total returns of 63.41% and an average transaction return of

7.04% by the Average holding period of 26.33 days and longest holding period was 39 days. The largest gains of 14.58% were achieved during a period of 28 days.



Source: Computation based on NSE data.

Chart No: .6. Stock Price movement of

NMD

MARUTI:The Chart 7 represents EMA & MACD histogram of the MARUTI scrip. It have been transacted 12 times in a year with total returns of 85.32% and an average transaction return of 7.1% by the Average holding period of 24.75 days and longest holding period was 51 days. The largest gains of 19.44% were achieved during a period of 30 days.



Source: Computation based on NSE data

. Chart No: .7. Stock Price movement of

MARUTI

AMBUJA CEMENT: The Chart 8 represents EMA & MACD histogram of the AMBUJA CEMENT scrip. It has been transacted 10times in a year with total returns of 69.17% and an average transaction return of 6.91% by the Average holding period of 30.4 days and longest holding period was 68 days. The largest gains of 27.58% were achieved during a period of 68 days.



Source: Computation based on NSE data

. Chart No:.8. Stock Price movement of

AMBUJA CEMENT

ITC;The Chart 9 represents EMA & MACD histogram of the ITC script. It has been transacted 12 times in a year with total returns of 85.32% and an average transaction return of 7.11% by the Average holding period of 24.75 days and longest holding period was 51 days. The largest gains of 19.44% were achieved during a period of 30 days.



Source: Computation based on NSE data.

Chart No: .9. Stock Price movement

of ITC

HINDUSTAN UNILEVER: The Chart 10 represents EMA & MACD histogram of the HINDUSTAN UNILEVER script. It has been transacted 13 times in a year with total returns of 50.25% and an average transaction return of 3.86% by the Average holding period of is 23.53 days and longest holding period was 60 days. The largest gains of 11.92% were achieved during a period of 26 days.



Source: Computation based on NSE data.

Chart No: .10. Stock Price

movement of HINDUSTAN UNILEVER

FINDINGS OF THE STUDY:

MACD shows that MARUTI & HINDUSTAN UNILEVER scripts have more upward momentum when compared with others. It was also found that there are huge volatility scripts. ICICI BANK, TATA STEEL & CIPLA scripts had been coming down consistently. Investors can look forward to investing in these scripts.

Suggestions: The investors should be trained to use the technical analysis tools since it will help them in their day to day investment to get more returns. The company should orient the investors to mainly watch the business, economic, social & political factors that affect the supply & demand for scripts. The investors should analyze market data in real time; plan their own market timing strategy to make money regardless of upward & downward trending markets. “The trend is Investors friend”. So, investors’ have to monitor the trend of scripts before an investment.

CONCLUSIONS:

Trading (Buying /selling) of a script is not an easy task if the investor wants to make money from doing it. Millions of investors have lost money in the past by trying/guessing stock price movements. In today’s world, if the investors’ purely depend on fundamental analysis, broker’s advice, newspaper articles or business channels for investing/ trading decisions, at which investors get painful experience in the stock market. So, this research study on technical analysis will help the investors’ in analyzing the script based on technical oscillators to earn fruitful investments. Technical Analysis is all about learning the Art of Making Profits in all market conditions whether rising or falling. Knowledge of the stock markets is a key ingredient to the success and emphasis should be on managing trading risk while technical analysis can help Source: Computation based on NSE data. Chart No: 9. Stock Price movement of ITC Source: Computation based on NSE data. Chart No: 10. Stock Price movement of HINDUSTAN UNILEVER 5415 Sudheer, V., Trading through technical analysis: an empirical study from Indian stock market the investors’ to control. And it provides unbiased solutions in a biased world. “There is only one side to the stock market and it is not the bull side or bear side but the right side technical analysis can be used, when to buy and when to sell the script.”

E-Motorcycle: A solution to reduction in cost of transportation

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ABSTRACT

This research covers the area of electric vehicles stand for personal vehicle and its relevant market including the background information about the topic. The research is focusing on the research of current situation for the buyers and the less and more favourable conditions in Indian automobile industry. The principal of the report is comparative research of electric vehicle and conventional vehicles. In addition to this, the research focuses on the total cost of ownership of owning Electric vehicle instead of the conventional vehicle in the Indian market. In addition, the research assumptions are used in the formation of a questionnaire focusing on finding out about the awareness of electric vehicles among the publicity nowadays. The final statement that is going to be approved or rejected is the electric vehicles as a better alternative to the conventional vehicle in India.

Keyword: *Electronic motorcycle, Electronic Vehicle, plug-in, hybrid vehicles, conventional vehicles, Indian bike market*

1. INTRODUCTION

Energy crisis is one of the major concerns of today's world due to fast depleting resources of petrol, diesel, and natural gas. In combination with this, environmental decay is an additional factor which is contributing to the depletion of resources which is an alarming notification. Electric Bike which works on the battery that is powered by the motor is the general mode of transport for a local trip. The Electric bike which will be running on battery, the power is supplied by the motor, thereby supplying this power to drive the other gear components. The main purpose of using E-bike is that it is user-friendly, economical, and relatively cheap. The efficiency of this system is undeniable compared to conventional modes of transport.

2. REVIEW OF LITERATURE

A review of the relevant literature has been described as under.

Akshat Bansal & Akriti Agarwal (2018), in their research paper on "Comparison of Electric and Conventional Vehicles in Indian Market". the research focuses on the total cost of ownership of owning Electric vehicle instead of the conventional vehicle in the Indian market. The research also emphasizes on manufacturer perspective by finding out the best segment to launch an electric vehicle in India. In addition, the research assumptions are used in the formation of a questionnaire focusing on finding out about the awareness of electric vehicles among the publicity nowadays.

A. Jhunjhunwala, P. Kaur and S. Mutagekar in their research paper on "Electric Vehicles in India: A Novel Approach to Scale Electrification," in IEEE Electrification Magazine explained that over the last few years, electric vehicles (EVs) have captured the imagination of people in many parts of the world. Approximately 1.1 million passenger EVs (cars) were sold in 2017, up by about 57% from the previous years. Several nations have announced that their vehicles will be fully electric by 2025, 2030, or 2040. General Motors, Ford, Toyota, Volkswagen, and others demonstrated their EV ambitions by making major EV announcements.

Khurana A, Kumar VVR, Sidhpuria M in their research paper titled, “A Study on the Adoption of Electric Vehicles in India: The Mediating Role of Attitude” explained that various governments are encouraging people to switch to EVs by incentivizing the transition. Previous studies indicate that the high cost of the electric car, non-availability of charging infrastructure, time and range anxiety act as impediments to consumer adoption. The Government of India has given a call for ‘only Electric Vehicles’ on Road by 2030. This article is contemporary and examines the different factors that affect a consumer’s adoption of an EV.

3. RESEARCH METHODOLOGY

The present study is an analytical study because it deals with statistical data. The study is based on primary as well as secondary data. The primary data is collected via structured questionnaire from 141 respondents. The secondary data is collected mainly from the sources available on internet like the articles, journals and websites. Data is presented with the help of Graphs, charts and tables etc, whereas data analysis is done via excel and SPSS software. The statistical tools used are enumerated below:

1. Arithmetic mean for calculating values for the purpose of evaluation.
2. One-way ANOVA for analysis and interpretation.

OBJECTIVES

The following are the broad objectives of this research paper:

1. To find out the market share of different e-motorcycle manufacturing companies in India.
2. To find out the factors influencing the preference for e-motorcycles.
3. To perform comparison between e-motorcycles and petrol bikes.

HYPOTHESIS

H1 - Electric motorcycles are more suitable in current situation.

H0 - Electric motorcycles are not suitable in current situation.

H1 - Electric motorcycles are more convenient than petrol bikes.

H0 - Petrol bikes are more convenient than electric motorcycles.

MEANING OF E-MOTOR CYCLE

An electric motorcycle (e-motorcycle) is a motorized bike with an integrated electric motor used to assist propulsion. Electric motorcycles and scooters are plug-in electric vehicles with two or three wheels. The electricity is stored on board in a rechargeable battery, which drives one or more electric motors. Electric scooters (as distinct from motorcycles) have a step-through frame. Electric motorcycles usually have a larger battery pack and can go up to 100-110km on a single charge.

PROS AND CONS OF ELECTRIC BIKE

PROS:

(i) Zero Vehicular Pollution:

Of course, this is the No.1 reason for such a massive shift to electric vehicles (EVs). They run on electric motors, and not use fossil fuels, which means they don’t let out any pollutants. In effect, the increasing adoption of EVs is being promoted to negate the major role that internal combustion-engined (ICE) vehicles have played in the world’s overall carbon emissions.

(ii) No Maintenance:

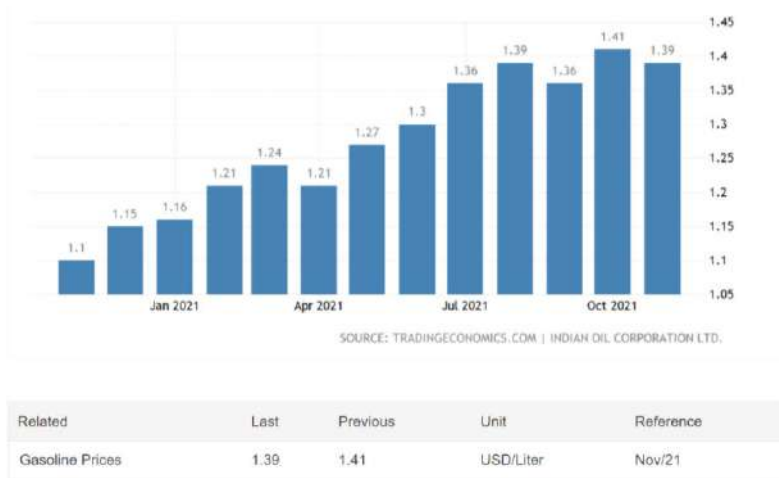
Even after months of daily driving, all that an electric two-wheeler requires is regular cleaning and the occasional lubrication. They have very few moving parts and mechanicals compared to their conventional petrol-powered bikes and scooters. Also, they don't require engine oil or air filters which are the commonly replaced components on a ICE vehicle. Hence, only basic parts need maintenance.

(iii) No Noise:

Apart from polluting the air, conventional two-wheelers with petrol engines are quite noisy. A few actually enjoy this noise, but most would rather do away with it. With an electric two-wheeler, that is just what you can do, as the electric motor makes only a light hum even at full speed, reducing the overall noise pollution of your city.

(iv) Cost Efficient:

Electric two-wheelers usually come with two types of cost benefits - no maintenance over time and a more stable energy source price. Since electric bikes and scooters run on electricity, they're relatively more affordable. The price of electricity does not fluctuate as frequently as that of petrol and diesel. So, you will always pay relatively less to recharge and run your electric two-wheeler. In fact, some electric two-wheelers have a running cost of 1/10th of a ICE vehicle.



Source: <https://tradingeconomics.com/india/gasoline-prices>

(v) Government Incentives:

Various countries and governments across the world have developed frameworks and implemented laws to promote the ownership of electric two-wheelers. In India, the government provides FAME II incentives, which bring down the on-road price of an electric two-wheeler considerably.

CONS:

(i) Higher Initial Investment:

Since electric two-wheelers are not as widely manufactured as their conventional cousins, their cost is still quite high. This makes EVs inaccessible for a large population, as not everyone is willing or can afford to pay the high premium. The primary reason for the high cost of electric

two-wheelers is the lithium-ion batteries, which sometimes can be 50 per cent more than the cost of the vehicle itself.

(ii) Short Range:

With the current level of battery technology, the range of an electric two-wheeler is mostly lesser than that of its conventionally powered counterpart. This coupled with the limited charging infrastructure deters EV buyers.

(iii) Not so great on performance:

Most of the premium, modern electric two-wheelers have an unimpressive top speed for the price they command. Sure, the initial acceleration is high but electric motors usually lose their steam as the speeds climb. None of the reasonably priced modern electric two-wheelers sold in India is properly highway worthy so far. Even the high-speed electric scooters on sale have a top speed in the range of 60-80kmph and are priced over Rs 1 lakh.

(iv) Charging Infrastructure:

The lack of good charging infrastructure poses a problem, particularly in developing countries such as India. Once that is taken care of, it could essentially eliminate range or future anxieties that plague electric two-wheeler owners. While growth is expected in the next few years, finding a charging point right when you need it is not as easy as finding a fuel bunk yet.

(v) Charge times:

It takes just two minutes to refuel a bike or a scooter, but charging an electric vehicle can take a couple of hours at the bare minimum. Yes, there is the advantage of quick charging tech now, which can give your EV a full charge in just about an hour. However, don't expect to find these fast chargers everywhere just yet. Moreover, not all electric two-wheelers have fast-charging capability as it puts additional strain on the battery's life. That said, a few companies have adopted swappable battery technology, which is a novel way to minimise downtime while charging and also reduce range anxiety to a certain extent.

(vi) Limited Options:

This may be a temporary concern considering the influx of EVs expected from varied manufacturers over the next couple of years. Currently, however, you can count the available options on your fingertips. Thanks to the limitation in battery technology, the range remains limited too. This is one of the reasons why most manufacturers dabble in the scooter segment rather than the motorcycle space.

4. INDIAN ELECTRIC VEHICLE MARKETS OVERVIEW

The Indian Electric Vehicle Market was valued at USD 5 billion in 2020, and it is expected to reach USD 47 billion by 2026, registering a CAGR of above 44% during the forecast period (2021-2026). The Indian Electric Vehicle Market has been impacted by the outbreak of the COVID-19 pandemic due to supply chain disruptions and halt of manufacturing units due to continuous lockdowns and travel restrictions across the country. However, the electric vehicle

(EV) market is still in its nascent stage in India. It is expected to grow at a much faster rate during the forecast period due to various government initiatives and policies.



5. CURRENT E-BIKES AVAILABLE IN INDIAN MARKETS:

In table 1 and table 2 below, it shows that current e-bikes available in Indian market.

Table 1: Comparison of e-Bikes

Model	Revolt RV 400	Revolt RV 300	Ultraviolette F77	Ather 450	Ather 450X	Bajaj Chetak	TVS iQube Electric
Rated Power	3000 W	1500 W	NA	3300 W	3300 W	3800 W	NA
Max Power	NA	NA	33.5 bhp (25 kW)	5400 W	6000 W	4080 W	4400 W
Top Speed	45-85 kmph	25-65 kmph	147 kmph	80 kmph	80 kmph	78 kmph	78 kmph
Battery Capacity	3.24 kWh	2.7 kWh	4.2 kWh	2.7 kWh	2.9 kWh	3.0 kWh	4.5 kWh
Range	80-150 km	80-180 km	130-150 km	55-75 km	60-85 km	85-95 km	75 km
Charging Time	4.5 Hrs	4.2 Hrs	5 Hrs (1.5 Hrs Fast Charge)	5 Hrs (80% in 1 Hr Fast Charge)	5 Hrs (80% in 1 Hr Fast Charge)	5 Hrs	5 Hrs
Price (ex-showroom)	₹ 1,29,463	₹ 1,10,963	₹ 3,00,000	₹ 1,08,847	₹ 1,48,754	₹ 1,15,000	₹ 1,15,000

Source: <https://www.bikedekho.com/>

Table 2 Comparison of e-Bikes

Model	Okinawa iPraise	Hero Photon	Ampere Magnus Pro	Okinawa Ridge Plus	Ampere Zeal	Hero Optima ER	Okinawa Lite
Rated Power	1000 W	1000 W	1200 W	800 W	1200 W	600 W	250 W
Max Power	2500 W	1500 W	NA	1700 W	NA	1200 W	250 W
Top Speed	58 kmph	45 kmph	55 kmph	45 kmph	50-55 kmph	40 kmph	25 kmph
Battery Capacity	3.3 kWh	2.7 kWh	1.8 kWh	1.74 kWh	1.8 kWh	2.7 kWh	1.25 kWh
Range	160 km (Eco)	110 km (Eco)	75-80 km	84 km	85-90 km	110 km	60 km
Charging Time	4 Hrs	5 Hrs	5-6 Hrs	3 hours	5-6 Hrs	4-5 Hrs	4-5 Hrs
Price (ex-showroom)	₹ 1,23,000	₹ 84,990	₹ 73,990	₹ 73,417	₹ 68,799	₹ 74,990	₹ 63,990

Source: <https://www.bikedekho.com/>

In table 1 and table 2, it clearly indicates that more than 10 electric bikes are available in the Indian market in current situation. The highest price is Rs.3,00,000 quoted by Ultraviolette F77 and lowest price is Rs. 63,990 quoted by Okinawa Lite.

6. ANALYSIS OF DATA

COST-BENEFIT ANALYSIS OF E-BIKE AND PETROL BIKE (ASSUMPTION)

Let us assume Mr.A using ebike and Mr.B using petrol bike. The following table gives you better idea about the cost-benefit analysis between bike and petrol bike.

Table 3

Sr No	Particulars	e-bike	Petrol Bike
1	Buying Cost	Rs.60,000	Rs.70,000
2	Daily Running	50 km	50 km
3	Fuel efficiency/Mileage	100km per charge	40km per litre
4	Fuel/electricity cost	Rs. 14 per 1.5 units	Rs. 109 per litre
5	Maintenance	Rs. 20,000 per year	Rs. 7500 per year
6	Time period	3 years	3 years

After 3 years here is how much Mr. A and Mr. B will spend

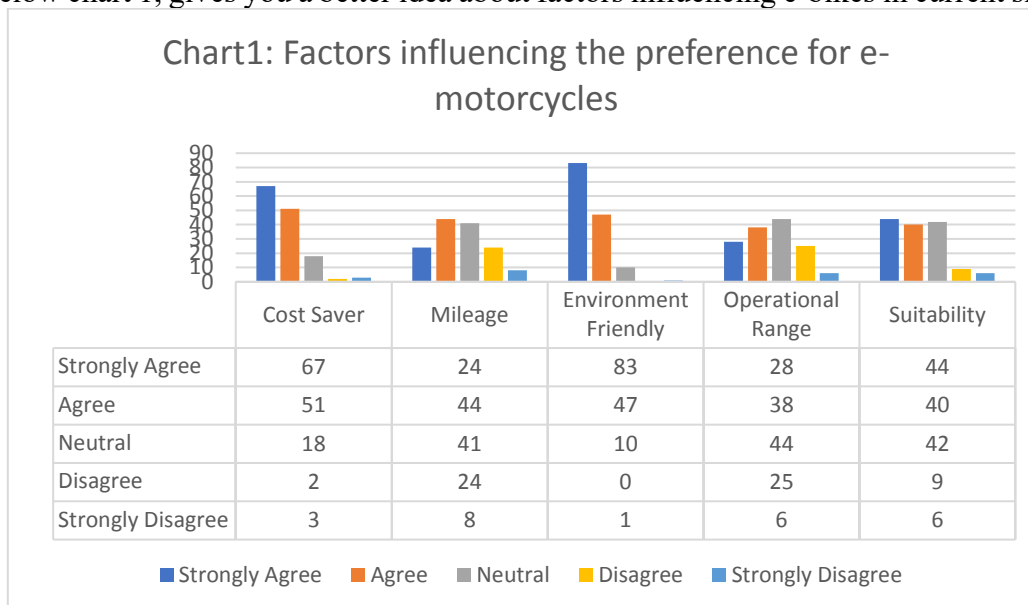
Table 4

Sr No	Particulars	e-bike	Petrol Bike
1	Total Petrol/electricity exp	Rs.7560	Rs.1,47,150

		$((50 \times 30 \times 36) / 100) * 14$	$((50 \times 30 \times 36) / 40) * 109$
2	Total Cost of maintenance	Rs.60,000	Rs.22,500
3	Gross exp including bike's cost	Rs.1,27,560	Rs.2,39,650

As per above analysis, over a period of 3 years, Mr. A will incur Rs. 1,27,560 on ebike, whereas Mr. B will incur Rs. 2,39,650 on his petrol bike. So the saving of Mr. A will be Rs. 1,12,090 for 3 years, so yearly savings of almost Rs.40,000.

Researcher collected primary data via structured questionnaire and 141 responses received. The below chart 1, gives you a better idea about factors influencing e-bikes in current situation.



Source: Author compilation

As per above chart1, 83.7% respondents agree that E-bikes are more cost saver as compared to petrol bikes. 92.2% respondents agree that E-bikes are more environmentally friendly as compared to petrol bikes. 60% respondents feel that E-bikes are more suitable to them as per the current situation.

The above data of respondents is analysed using IBM-SPSS software and One-way annova is applied as follows.

Table 5: Factors influencing the preference for e-bikes (Descriptive Statistics)

Users of E-Bikes	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Yes	114	10.3246	3.38789	.31730	9.6959	10.9532	5.00	21.00
No	27	12.3704	3.67055	.70640	10.9183	13.8224	6.00	25.00
Total	141	10.7163	3.52405	.29678	10.1296	11.3031	5.00	25.00

Source: Author Compilation as per IBM SPSS Software

As per Table 5, 114 respondents are using e-bikes out of 141. The mean of factors influencing the e-bikes of respondents is 10.3246. The standard deviation is 3.38789. Even though the people are not using e-bikes still they are agree that e-bikes are more suitable.

Table 6: Factors influencing the preference for e-bikes (Annova Test)

	Sum of Squares	df	Mean Square	F	Sig.	Table value
Between Groups	91.365	1	91.365	7.709	.006	7.71
Within Groups	1647.288	139	11.851			
Total	1738.652	140				

Source: Author Compilation as per IBM SPSS Software

As per Table 6, the one-way Annova test is applied to test the hypothesis. The annova result as given in table 6 shows that the calculated F value for hypothesis is 7.709 which is less than the Table value of 7.71. At 95% confidence level of significance is 0.05 and the F value is more than that i.e. 7.709. It is understood that electric vehicle is more suitable in the current situation. Therefore the null hypothesis i.e. Electric motorcycles are not suitable in current situation is rejected.

7. FINDINGS

1. The e-bikes are more cost saver as compared to petrol bikes.
2. E-bikes are more environmental-friendly which help to improve the air quality index of city like Mumbai.
3. Currently there are less availability of service station which is the main factor why people are reluctant to switch to e-bikes from petrol bikes. Still e-bikes have growth potential in the future.
4. The operational range of e-bikes is limited to short distance, however with new techniques, and development in e-bikes, the operational range will improve in the future.
5. Still there is a dilemma in the minds of petrol bike users to switch to e-bikes because of after sales services and charging related issues.

8. CONCLUSION

EVs are said to boost post-pandemic for economic recovery. The main aim of EVs in the country is to reduce the oil import and encourage green industrial policy. Electric vehicles will reduce the air pollution and mitigate climatic change. In order to promote usage of e-vehicles, the Indian government also provide lot of subsidies and schemes such as Faster Adoption and Manufacturing of Hybrid and Electric Vehicle (FAME scheme II). A lot of incentives are provided to the buyer such as basic subsidy, rebate, Income tax benefits under section 80EEB etc. In addition to all these incentives, all the electric vehicles are free of registration and road tax costs too. In spite of all the efforts taken by the government, the adoption of e-bikes are relatively less. This is because of many reasons such as less availability of service stations, charging issues, after sales services, etc. Finally, in the near future, EVs will have a great future in Indian market.

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A STUDY ON CHANGE IN PERFORMANCE OF BANK: MERGERS AND ACQUISITION OF PNB, UBI AND OBC

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ABSTRACT:

This study was conducted to assess the impact of merger and acquisition activities on the performance of Banks in India. The paper reviews the trends in M&As in Indian banking and the impact of M&A's has been studied in three leading banks of India. The study covers the area of performance evaluation of M&As in Indian banking sector during the period pre and post-period of ten years of Merger and Acquisition activity of PNB, UBI and LIOBC. The paper studied the post-merger financial performance of merged banks with the help of financial parameters like ROA, Net Profit Margin, Operating Profit Margin.

KEYWORDS: Merger, Acquisition, Banking, Growth, PNB, UBI, OBC

INTRODUCTION:

Finance Minister Nirmala Sitharaman had in August 2019 announced that PNB, Oriental Bank and United Bank will be merged to become the second-largest PSU Bank in India with a business of Rs17.95 lakh crore (1.5 times that of PNB). In today's, fast-growing world mergers and acquisitions is an approach used by corporations for their growth, extending their business to other dominions and to overcome financial struggle. The procedure of mergers and acquisitions has a received a substantial position in today's corporate world.

It can be observed that there are various recognized laws accessible in India on numerous modes of corporate restructuring namely the Companies Act, 2013, the Securities Contract Regulation Act 1956, the SEBI Act, 1992 the industries (Development & Regulation) Act, 1951, the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002 State Bank of India Act, 1955 and the Banking Regulation Act, 1949. In the recent times, the trends of mergers and acquisitions in India have been altered. In several segments of the economy, effects of the mergers and acquisitions have been diverse. Banking is the central pillar of the economy. A main part of the banking sector in India is government-owned, though there are also private minority shareholders in

some of these banks. Banks are stimulated to gain global reach and better synergy through bank mergers and allow greater banks to obtain the stressed assets of smaller banks.

Abolition of competition between the banks is another aspect for bank mergers. By doing this considerable amount of funds used for supporting competition can be used for the growth banking business. Sometimes, a bank with a big bad debt portfolio and poor revenue will merge itself with another bank to seek backing for survival. Merger in India between unviable banks should grow quicker so that the weak banks could be reformed providing continuity of employment with the working force, operation of the assets blocked up in the unviable banks and adding beneficially to the prosperity of the nation through increased flow of funds.

In the banking sector, important mergers, and acquisitions in India in recent years include the merger between IDBI (Industrial Development bank of India) and its own subsidiary IDBI Bank in 2004. The deal was worth \$174.6 million (Rs. 7.6 billion in Indian currency). Another important merger was that between Centurion Bank and Bank of Punjab in 2005. Worth \$82.1 million (Rs 3.6 million in Indian Currency), this merger led to the creation of the Centurion Bank of Punjab with 235 branches indifferent regions of India, another was acquisitions of Centurion Bank of Punjab HDFC Bank in 2008.

REVIEW OF LITERATURE:

Devaraj S. (2012) examine financial performance of HDFC Bank Limited and Centurion Bank of Punjab with the help of financial parameters and contrast pre-merger and post-merger performance of banks based on last 3-year data and the solutions of this investigation was that mean value of gross profit had raised and the mean value of equity had multiplication but there is no change in net profit, return on capital, and operating profit. And closed that merger outcome is helpful for surviving of weak Bank by merging into larger banks.

Dr K.A. Goyal & Vijay Joshi (2012) studied case of ICICI Bank Limited to be conscious with the growth of ICICI Bank Limited. This Bank amalgamated with Nine Finance entities like SCICL, ITC Classic Finance Ltd., Anagram Finance, Bank of Madura, Bank of Sangali, ICICI Personal Finance Service Ltd & ICICI Capital Service Ltd., Standard of Chartered Grindlays Bank's two branches, and Bank of Rajasthan Ltd. According to them merger and acquisition studied in three phases premerger phase, acquisition phase and post-merger phase. And concluded that that there were many issues and challenges for ICICI Bank Limited, but it accepted that challenges and became India's largest Private sector bank.

Hang (2016) As per the study the M&A helps in increasing the production capacity and it reduces the operational cost which helps in increasing the revenue. Arora, (2014). Study reveals that M&A, taking place in the banking sector, are beneficial not only to banks but also to every sector of the economy.

Khan (2011) the paper focuses on overview of banking industry of India and spotlight the changes which occurred in banking sector after certain mergers and acquisition as per AS-14. The requirement of amalgamation has been examined in this study and also focus on pros of Merger & Acquisitions. Under this paper the researcher provides insight of internal and external implications of merger & Acquisitions.

OBJECTIVE:

- To analyses the impact of M & A on the acquirer's profitability.
- To assess the performance of financials of 3 banks.

HYPOTHESIS:

- H0: There is no significant difference in the ROA of the selected Acquirer company pre-merger and post-merger.

RESEARCH METHODOLOGY:

The study of this paper is descriptive. The secondary data has been used to collect details. A number of press releases, research publication, journals, and newsletters from various Internet websites regarding to this mega-merger has been used for the study. Reserve Bank of India (RBI) official website has been used for gathering information on the performance of amalgamating Banks. To verify the hypothesis T-test will be conducted to understand the effect of mergers on the operating efficiency of the company before and after merger. The test will be considered at 5% significance.

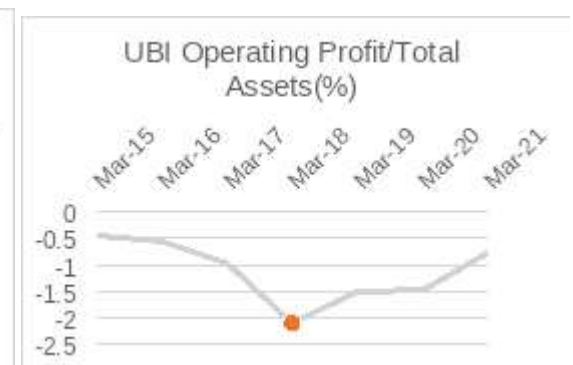
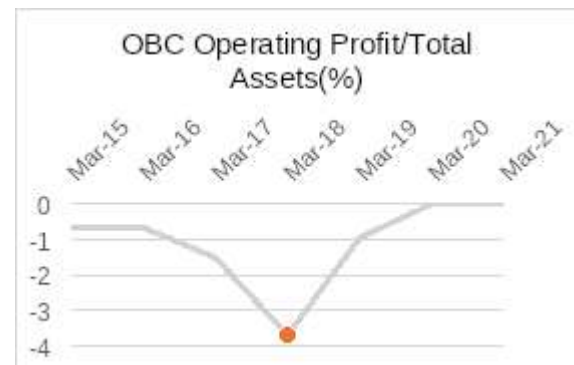
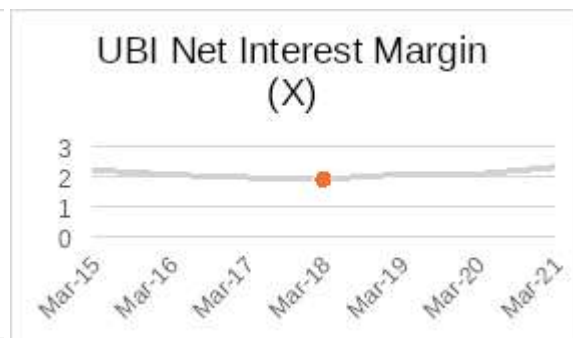
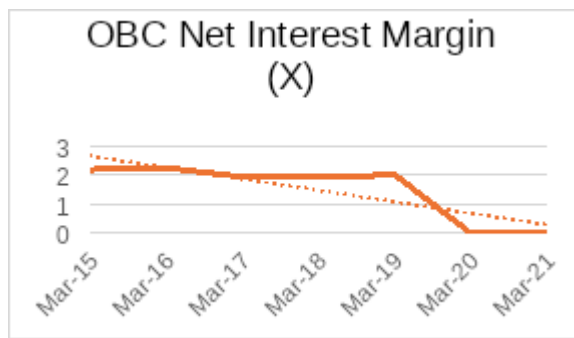
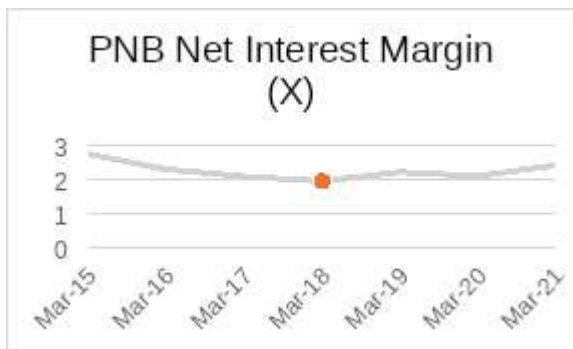
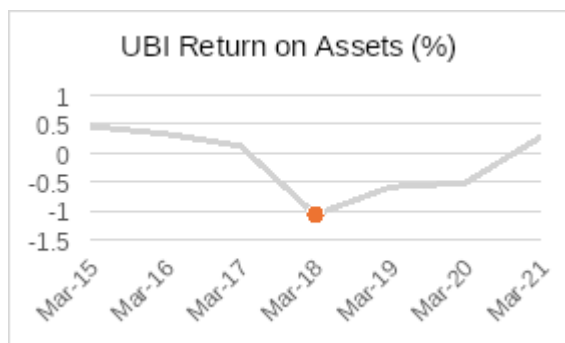
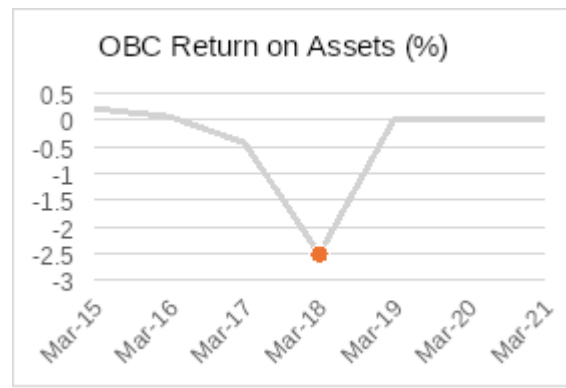
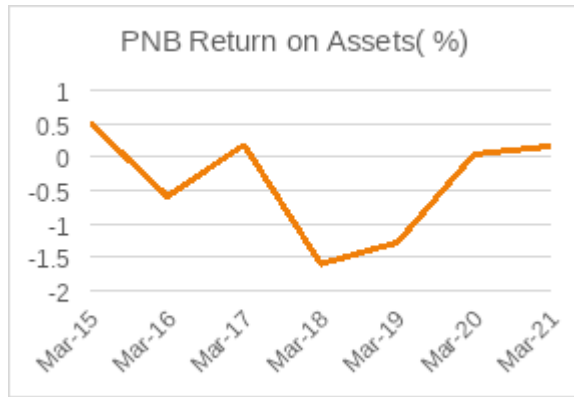
DATA ANALYSIS:

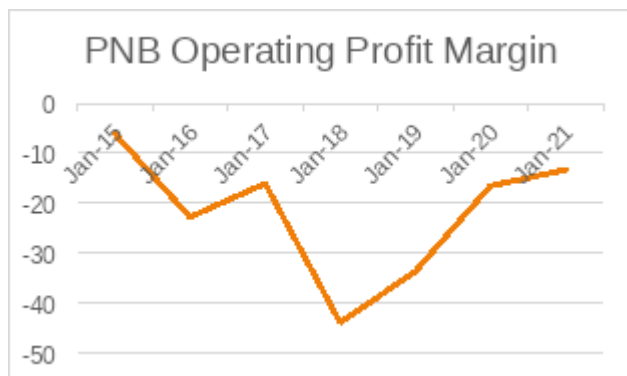
PNB	Post- Merger		Pre Merger				
	Mar-21	Mar-20	Mar-19	Mar-18	Mar-17	Mar-16	Mar-15
ROCE (%)	1.85	1.8	1.7	1.38	2.06	1.87	2.03
Net Profit Margin (%)	2.5	0.62	-19.44	-25.59	2.8	-8.38	6.61
Operating Profit Margin (%)	-13.36	-16.61	-33.81	-44.09	-16.13	-22.88	-6.1

Return on Assets (%)	0.16	0.04	-1.28	-1.6	0.18	-0.59	0.5
Net Interest Margin (X)	2.41	2.09	2.21	1.94	2.08	2.29	2.74
Cost to Income (%)	44.1	41.81	58.8	63.44	40.22	48.18	37.13
Interest Income/Total Assets (%)	6.4	6.47	6.62	6.26	6.56	7.1	7.67
Non-Interest Income/Total Assets (%)	1.01	1.11	0.95	1.15	1.24	1.03	0.97
Operating Profit/Total Assets (%)	-0.85	-1.07	-2.23	-2.76	-1.05	-1.62	-0.46
OBC	Mar-21	Mar-20	Mar-19	Mar-18	Mar-17	Mar-16	Mar-15
ROCE (%)			1.41	1.61	1.68	1.58	1.88
Net Profit Margin (%)			0.3	-33.74	-5.93	0.77	2.49
Operating Profit Margin (%)			-14.63	-49.73	-20.95	-8.02	-8.13
Return on Assets (%)			0.02	-2.51	-0.43	0.06	0.21
Net Interest Margin (X)			2.02	1.93	1.94	2.26	2.2
Cost to Income (%)			39.5	65.23	41.38	32	29.1

Interest Income/Total Assets (%)			6.57	7.45	7.27	8.44	8.65
Non-Interest Income/Total Assets (%)			0.98	1.19	1.09	0.74	0.92
Operating Profit/Total Assets (%)			-0.96	-3.7	-1.52	-0.67	-0.7
UBI	Mar-21	Mar-20	Mar-19	Mar-18	Mar-17	Mar-16	Mar-15
ROCE (%)	1.85	1.7	1.54	1.57	1.67	1.42	1.56
Net Profit Margin (%)	4.22	-7.78	-8.65	-16.02	1.69	4.19	5.55
Operating Profit Margin (%)	-12.26	-21.91	-21.78	-31.26	-13.5	-7.08	-5.42
Return on Assets (%)	0.27	-0.52	-0.59	-1.07	0.12	0.33	0.46
Net Interest Margin (X)	2.3	2.07	2.06	1.9	1.96	2.05	2.21
Cost to Income (%)	41.34	46.11	45.76	51.78	35.38	29.56	28.6
Interest Income/Total Assets (%)	6.41	6.76	6.89	6.71	7.21	7.95	8.4
Non-Interest Income/Total Assets (%)	1.05	0.95	0.9	1.02	1.09	0.89	0.92

Operating Profit/Total Assets (%)	-0.78	-1.48	-1.5	-2.1	-0.97	-0.56	-0.45
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ANOVA

SUMMARY

Groups	Count	Sum	Average	Variance
Column 1	8	-0.14	-0.0175	1.04145
Column 2	2	0.2	0.1	0.0072

ANOVA

Source	of					
Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.02209	1	0.02209	0.024217	0.880189	5.317655
Within Groups	7.29735	8	0.912169			
Total	7.31944	9				

In general, if your calculated F value in a test is larger than your F critical value, you can hypothesis from the above ANOVA it is clear that we are not able to reject the null hypothesis ($F < F_{crit}$). It means there is significant difference between ROA of PNB Bank pre and post-merger

CONCLUSION:

In recent years, the banking industry has been undergoing massive mergers and acquisitions to achieve bank consolidation. Mergers and amalgamations assist the institutions in scaling up fast and gaining a bigger number of new customers to improve their balance sheet and cash flow statements. An acquisition or a merger not only offers a bank more capital to work with in terms of giving out loans and making investments, but it also helps in the expansion of the bank's geographic reach that enables it to provide services to a larger customer base. However, a sharp rise in the number of such

mergers and acquisitions has resulted in an unprecedented increase in bank concentration at the market level, which may have an impact on banking competitiveness.

The unexpected increase in the country's nonperforming assets (NPAs) and bad loans has harmed its international standing and therefore mergers do seem like a way out. However, anti-competitive mergers and abuses of dominance in the banking sector should be closely scrutinized by the Government. Currently, there is also a need for the Government to adopt essential merger regulations relating to both PSBs and private banking organizations.

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A STUDY ON INVESTORS PREFERENCES FOR MUTUAL FUNDS

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ABSTRACT:

A Mutual Fund is an investment instrument that attracts funds from various investors and invests the funds in stocks, bonds, short-term money-market instruments, other securities or assets or some combination of these investments. The primary goal behind investment in a mutual fund is to earn goods return with comparatively low risk. The main objective of this research is to identify investors' preferences towards mutual fund in Mumbai metropolitan city. By using in the structured questionnaire, the data have been analyzed. The findings from this research are that most of the investors are doubtful to invest the new-age investment like mutual funds.

KEY-WORDS:

Mutual Funds; Investment; Investors; Fund Manager; Returns; Risk.

INTRODUCTION:

A mutual fund is a company that pools money from many investors and invests the money in securities such as stocks, bonds, and short-term debt. The combined holdings of the mutual fund are known as its portfolio. Investors buy shares in mutual funds. With reforms in the financial sector and the developments in the Indian financial markets, Mutual Funds (MFs) have emerged to be an important investment avenue for retail (small) investors. The investment habit of the small investors particularly has undergone a sea change. An increasing number of players from public as well as private sectors has entered into the market with innovative schemes to cater to the requirements of the investors in India and abroad. For all investors, particularly the small investors, mutual funds have provided a better alternative to obtain benefits of expertise- based equity investments to all types of investors. So in this scenario where many schemes are flooded in to market, it is important to analyses needs of consumers and to find out which factors affects consumers' needs the most.

REVIEW OF LITERATURE:

Prabhavati and Krishna (2013) main focus of the study is to understand the attitude, awareness, and preferences of mutual fund investors. D.V. Ingle (2013) has described everything about Mutual Funds

in India and why it is useful for small investors who cannot directly invest in the stock market. And also, when the Mutual funds were created. This book describes the journey of Mutual Funds in India. Chauhan P (2015) study the comparative performance of mutual funds of selected Indian companies. The study focus on mutual fund schemes of selected Indian companies comprising Equity, Debt, and Hybrid Schemes. A total of 390 schemes comprising 178 equity mutual funds, 138 debt schemes, and 74 hybrid schemes are selected for the study. The performance of selected Indian companies' mutual funds is analyzed with the help of Return, risk. Selected Mutual Fund is compared with their respective benchmark. Chen, Kraft & Weiss (2011) have tested mutual funds that engage in tax planning and how do they respond to changes in the capital gains tax rates was investigated.

RESEARCH OBJECTIVE:

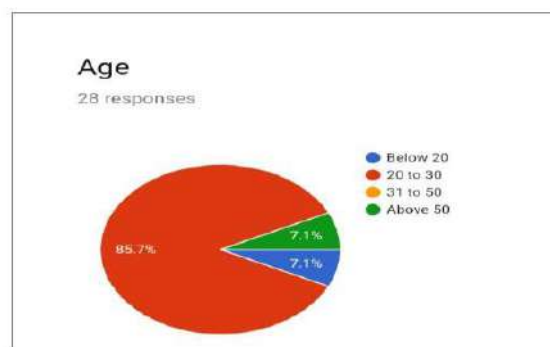
The main objective of this report is to identify investment preferences towards mutual fund in Mumbai metropolitan city.

RESEARCH METHODOLOGY:

The research undertaken here is empirical in nature. This will help to know the acceptance of mutual funds among people. The information is collected from both primary and secondary sources. Primary data has been collected through a questionnaire and 30 responses were collected from people who are continuously investing in the mutual fund. By Questionnaire, you can understand people's tastes & preferences, so it is easy to convince.

DATA ANALYSIS:

Age: The Question Is asked to understand the Age Group of the Respondent.

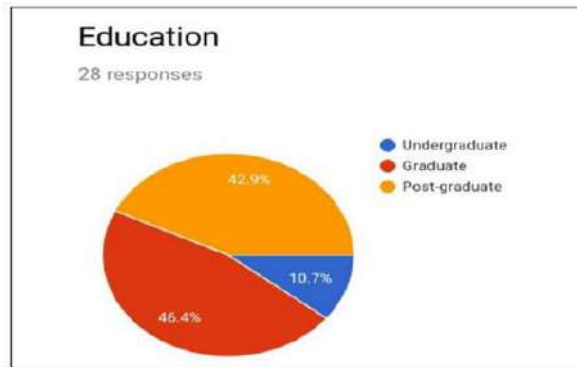


Interpretation: The that 85.7% of the

above figure shows respondents are

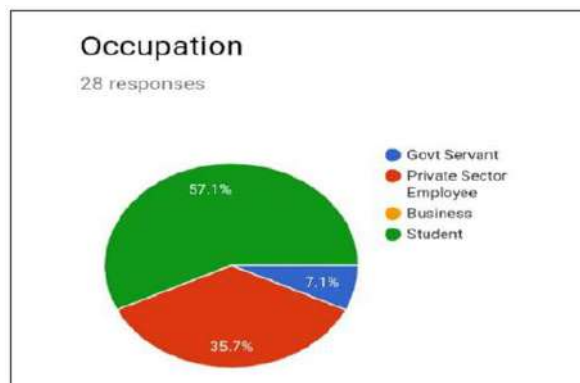
between the age group 20-30 years, & About 7.1% of the respondents are in the age group of either below 20 years or above 50 years as per data collected.

Educational Qualification: The question is asked to understand the Education of the Respondent who wants to invest in the market.



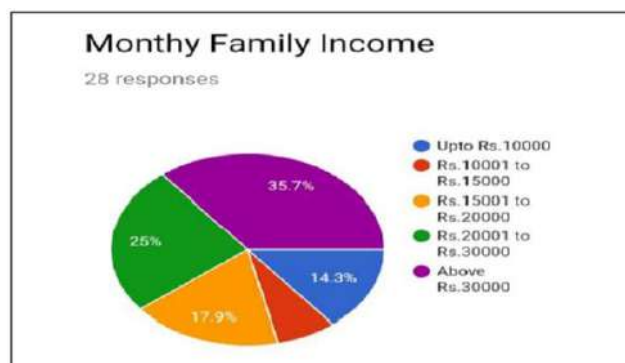
Interpretation: The above figure shows that 46.4% of the respondents are graduated & post graduated are about 42.9%, and About 10.7% of the respondents are in the undergraduate group as per the data collected.

Occupation: The Question shows the Occupation group of the Respondent.



Interpretation: The above figure shows that 7.1% of the respondents belong to govt sector, 57.1% of the respondent belongs to the student category, and 35.7% of the respondents belong to the private sector category.

Monthly family income: The question is asked to understand the Income Group of the Respondent in which the investment of a particular group can be defined.

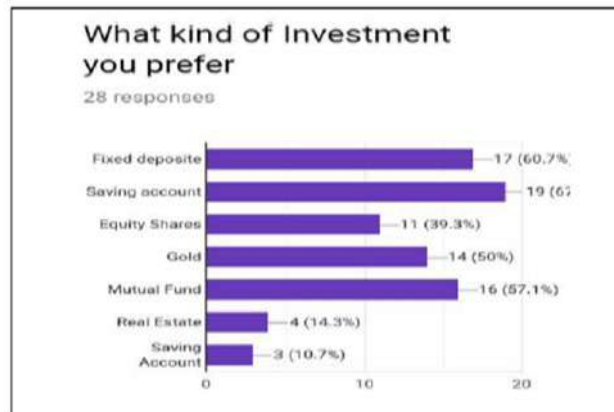


Interpretation: The above chart shows that 14.3% of the respondent belongs to Rs. 10000 Income group and 7.1% of the respondent belongs to Rs. 10001- Rs. 15000 income group. As compared to

other income groups ranging from Rs. 15001-Rs. 20000 belong to 17.9%, whereas 25% belong to income group Rs. 20001- Rs. 300000 and lastly 35.7% ranging from Rs. 30000 & above accordingly.

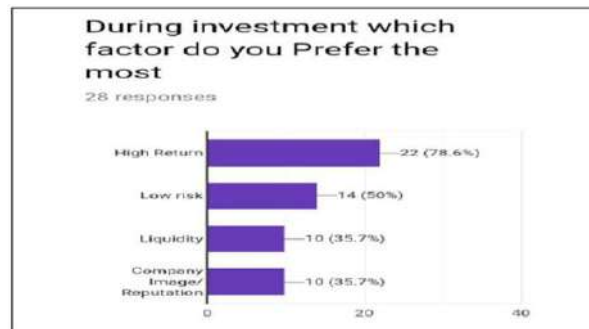
What kind of Investment do you prefer?

The Question shows the investment avenue in which generally people invest.



Interpretation: The above chart shows that 78.6% of the respondents ranked Saving Scheme as their long term investment as the first preference and almost 60.7% uses fixed deposits and 14.3% of the respondents ranked Real Estate as their long term investment as the last preference.

During Investment which factor do you prefer the most: The Question shows the most preferred factor that comes to the mind of the investor.



Interpretation: The above table shows and talks about investing your money in mutual funds. As per customer approach, they think 29.2 percent is liquid markets, while 25 percent think it’s a low-risk market while high returns percentage is 33.3 percent. The last preference in the questionnaire is company reputation which is 12.5 percent as per data collected.

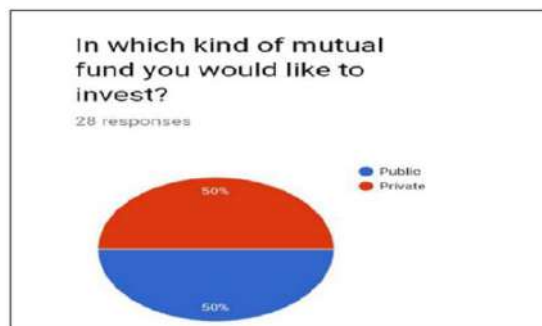
Where do you find yourself as Mutual Fund Investor? The Question shows the Awareness among the Respondent about the mutual fund.



Interpretation: This data talks about the mutual fund investor. As per the data people are quite ignorant about mutual funds, while 39.3% of respondents feel they have partial knowledge about the mutual fund industry. 25%of the respondents are aware of specific schemes in which they invest their money. 21.4% are customers who are fully aware of mutual funds.

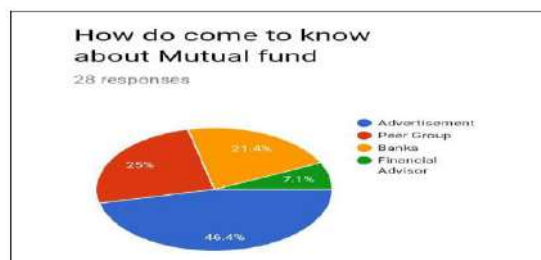
In which kind of mutual fund you would like to Invest?

The Question Defines the Preference of the investor between two choices.



Interpretation: The above chart talks about the most important survey i.e. in what kind of Mutual Funds customers would like to invest i.e. either Public or Private. Data respondents are partial would invest in public portfolios partially investing in private portfolios.

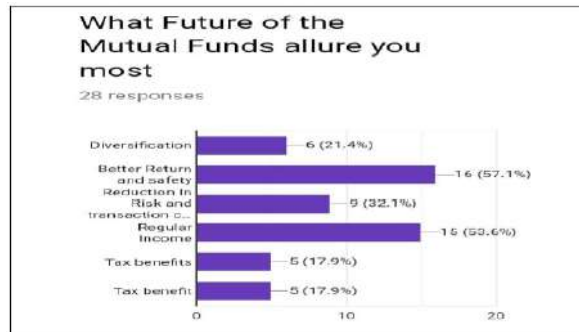
How do you come to know about Mutual Fund? This Question shows that Mutual fund awareness has been done through various sources.



Interpretation: The above table talks about mutual funds industry knowledge. People responded that 46.4% have known through advertisements, 25% through peer groups, while 21.4% have come to know through banks and lastly financial advisor percentage is 7.1%.

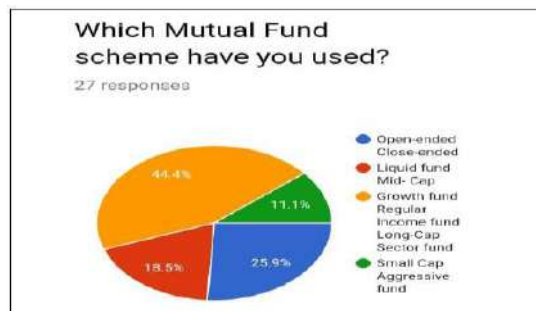
What future of the Mutual Fund’s Allure you most?

The Question says about the attractiveness of the mutual fund industry.



Interpretation: The above chart shows the future of mutual funds in the banking industry. The data speaks that 21.4% of respondent’s allure diversified portfolios, 57.1% for better returns and safety, 53.6% of the respondents think regular income would be a better option. Tax benefit responded to about 17.9%.

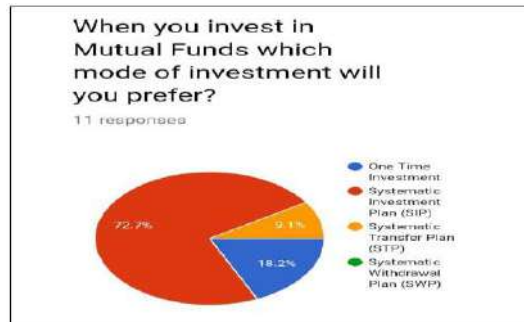
Which Mutual Fund Scheme have you used? The Question shows the various Mutual Fund Schemes in which generally investor invests according to their Preference.



Interpretation: The above chart shows that mutual fund scheme customers have used to date. Open-ended and close-ended scheme comprises 44.4% while liquid fund midcap funds are 18.5%, while 25.9% of respondents are investing in long cap sector fund and very few like 11.1% respondent invest in the risky small-cap aggressive fund.

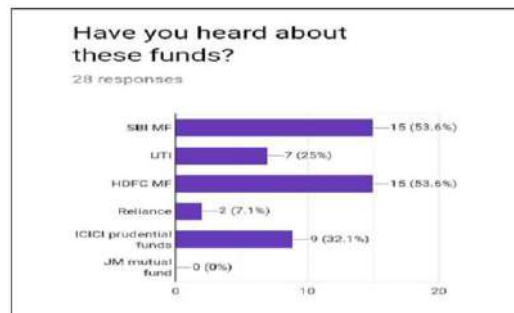
When you invest in a Mutual Fund which mode of investment will you prefer?

The question defines the various modes of Schemes that people usually prefer.



Interpretation: The above chart shows which investment option is better. 18.2% of respondents think that one-time investment is the best option, while 72.7% of respondents feel SIP MF is the best mode of investment. While remaining think that systematic transfer plan is the best mode of investment.

Have you heard about these funds? The given Question shows the Popularity of the various funds among the investor and the Preferences are given to a Specific Fund.



Interpretation: The above data shows and talks about mutual funds they have invested so it says, SBI Mutual fund and HDFC MF are most preferable as almost 53.6% have invested in it. 25% have invested in UTI, 2% in Reliance MF, 32.1% have invested in ICICI prudential funds which are second-most preferable.

FINDINGS, CONCLUSION & SUGGESTION:

FINDINGS:

- Most Investing Generation in Mumbai in the age group of 20-30 years was in numbers. The second most of the investments were in the age group of 50 above and below 20 years' age group showing the Investing Criteria.
- Almost 80% of the investors possess higher education like graduation and above
- In the occupation group most of the investors were private employees then comes Govt Employees and the least were businessmen and the others were Students.
- The data shows that mostly Income groups above 30000 invest in the financial market.
- About all respondents have saving accounts in a bank, others in fixed deposits which shows that there is still a lack of awareness about the mutual fund and Are Still Investing in Traditional methods.

- Most People Expect high returns and Low risk during their investment in Financial Market.
- The Data shows there is still a lack of Awareness of Mutual Fund between people that People Still Invest in Less Quantity in Mutual Fund.
- Nowadays Mutual Fund Advertisement Is shown everywhere so People Would get more Knowledge about the Mutual Fund Industry.
- It is observed that actively managed funds, even though expenses may be higher compared to the passively managed funds, are giving good returns.
- It is also found that when the period of investment is higher, the returns are comparatively better than the shorter period of investment, in the case of closed-end schemes.
- SIP returns are very good in all types of plans like ELSS, Balanced, etc., with so many times higher returns than non-SIP returns.

SUGGESTIONS AND RECOMMENDATIONS:

The most vital problem spotted of ignorance. Investors should be made aware of the benefits. Nobody will invest until and unless he is fully convinced. Investors should be made to realize that ignorance is no longer bliss and what they are losing by not investing. Mutual funds offer a lot of benefits that no other single option could offer. But most people are not even aware of what a mutual fund is? They only see it as just another investment option. So the advisors should try to change their mindsets. The advisors should target more and more young investors. Young investors as well as the height of their career would like to go for advisors due to Persons.

CONCLUSION:

The study on analysis of mutual fund performance in India. From the study, it can be concluded that most of the investors are aware of the mutual fund. It can be concluded that the mutual fund is still in the infant stage. The growth is still vast. Since Indian investors are very sensitive towards investing in high-risk funds. Investment in mutual funds is still not reached into the hands of all investors. Most of the investors are not having a clear picture of the mutual fund's benefits. But this trend is slowing down in a gradual process. More and more investors are showing much interest in mutual funds in the coming years are going to be ruled by mutual funds.

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MERCHANT BANKING IN INDIA

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ABSTRACT:

Merchant banking is a financial institution which provides service to their clients. Merchant banking provides not only financial services but also guides them to move on right path with the help of rules given by SEBI. Merchant banking provides share ownership instead of loans. Merchant banking covers wide range such as portfolio management, customer services, counselling etc. Merchant banking offer fee-based and non-fee-based services like loan syndication, underwriting, project promotion, advisory to small and medium savers. Merchant banking has a long-term approach than investment. This study helps to understand the concept of merchant banking. This paper shows the linkage between intermediations function and economic development in India. There should be collaboration between financial institution and finance company to build a financial system in India. This study helps to understand the prime objective, functions, role in the market and recent development in merchant banking.

INTRODUCTION:

Merchant banking services were started in India in 1967 by national Gridley's. Merchant banker defined by SEBI rule, "any person who is engaged in the business of issue management either by selling, buying and subscribing to securities as manager". Merchant bank can be also called investment bank. A merchant bank is a bank dealing in commercial loans and investment. Merchant bank covers wide range of activities such as counselling, portfolio management etc. Merchant banking provide wide range of services such as:

- Project counselling
- Loan syndication
- Underwriting of public issue
- Portfolio management
- Acceptance of bill of exchange

SBI was the bank who implements merchant banking in India. Merchant banking is a fee-based business where the bank tries to minimize the risk and maximize the profit.

RESEARCH OBJECTIVE:

- To understand the nature and prime objective of merchant banking.
- To understand the Merchant banking's role in Market and Portfolio Management.
- To understand the services provided by merchant banking.
- To understand the recent development in merchant banking in India.

LITERATURE REVIEW:

Sanjeev Kumar (2016): Merchant banking is financial institutions which provide capital to the company in the form of share ownership. It also provides advice to the corporate sector in which they invest money. Merchant banking is not only an advisor but also a principle. Merchant banking has a long-term approach than investment. It provides right advice to each client. Merchant banking is a traditional term; it also describes private equity. Merchant banking helps in the corporate sector which reflects into economic development of the country. Merchant banking provides various functions like portfolio management, underwriting, counselling, loan syndication. Merchant banking is a combination of banking and consultancy services.

Wagmare Shivaji (2015): Globalization made the whole Indian economy open, which has a multiple role in financial services. Now a day's government has opened the door of investment in the area of insurance and bank. Which provides a competitive environment for present players? Merchant banking is an innovative term introduced by commercial banks. The need for merchant banking is pronounced by the banking commission (1972). Merchant banking offers fee-based and non-fee-based services like loan syndication, underwriting, project promotion, advisory to small and medium savers. In India, merchant banking works under SEBI.

Dr. Singh and Dr. Saxena (2017): Merchant banking consists of a wide range of financial activities and financial institutions. Merchant banks are called "Accept and issue houses". Because merchant banks act as brokers and principles. Merchant banking has a long-term approach concerned with each investment opportunity and provides right advice to each client of the company. Merchant banking is a service provided by many financial institutions to increase the growth of the corporate sector which reflects into the Indian economy. Merchant banking is a combination of consultancy services and banking.

Dr. Jyoti Lahoti (2016): Merchant banking is a service provided by financial institutions which helps in the economic development of the country. Merchant banking provides various services like portfolio management, loan syndication, and issue management. Merchant banking is a combination of consultancy services and banking. It helps in the business unit. It also helps to increase the fund and to expand the business.

CS Gowtham (2017): Merchant banking issue share, debentures, bank loan to their clients. This finance is used for new business or to expand the business, to modify the business. Merchant banking not only provides finance but also provide right path with respect to SEBI.

Shreyas B.S: Merchant banking consist of wide range of financial activities. Merchant bank is called “Accepting and issuing house” Merchant banking is rapidly growing in Indian economy. The SEBI which gives overall view of present and past. Merchant banking is oldest in the primary market and it has bright future in coming years.

Farzana Huda (2017): Merchant banking plays vital role in economic development. It is observed that merchant bank is able to achieves growth in investment sector like brokerage, capital loss/ gain, portfolio management, issue management, advisory fees. This study analyses the performance of prime finance, capital management.

Animesh (2016): investigated that Globalization of Indian Economy has made the whole economy open, which has move multinational player in era of the financial services. Government has now open up the doors of investments especially in the area of banks and insurance which leads to competitive environment for the present players. The study also revealed that in India, at present, a substantial number of Merchant Bankers are operating under the direct supervision of Securities and Exchange Board of India (SEBI) and also evaluated the performance of selected Merchant Bank of India.

Nayak (2015): Inspected that formal merchant banking activity in India was originated in 1969 with Merchant Banking Division set up by the Grind lays Bank. He points out that the main service offered at that time to the corporate enterprises by the merchant banks included the management of public issues and some aspects of financial consultancy. The early and mid-seventies witnessed a boom in the growth of merchant banking organizations in the country with various commercial banks, financial institutions and broker’s firms entering in to the field of merchant banking.

Biswajit and Pranab (2012): examined that merchant banking is a much-desired innovative step undertaken by the commercial banks in India. The study focused that the need for merchant banking was strained by the Banking Commission (1972) and according to the commission, merchant banking institutions are to offer fund based on non-fund-based services like syndication of financing, promotion of projects, investment, management and advisory services to medium and small savers and to provide funds and trusts to various types etc. Their main function is to guide the preparation, planning, evaluation and execution of projects which are helpful to the growth of industries.

RESEARCH METHODOLOGY: The data in the project is a secondary data and taken from some research paper and some news apps.

DATA ANALYSIS:**Nature of Merchant Banking:**

It is skill-based activities and involves serving every financial need of every client. It requires a focused skill-base to provide for the requirements of the client. SEBI has made the quality of manpower as one of the criteria for registration as the merchant banker. These skills should not be concentrated in issue management and underwriting alone, which may hurt business. Merchant bankers can turn to any of the activities mentioned above depending upon resources, such as capital, foreign tie-ups for overseas activities and skills. The depth and sophistication in merchant banking business are improving since the avenues for participating in capital market activities have widened from issue management and underwriting to private placement, bought out deals (BODS), buy-back of shares, mergers, and takeovers.

PRIME OBJECTIVE OF MERCHANT BANKING:

1. Provide long term funds to clients.
2. In project counselling, project appraisal, loan syndication and management of working capital.
3. Underwriting.
4. Portfolio management.
5. Corporate advisory and issue management.

ROLE IN INVESTMENTS:

The general investors are not aware of profitable investment decisions. As such, they face a lot of difficulties in selecting the right opportunity, the right time to get in and get out to have the right return. Portfolio is a combination of securities such as stocks, bonds and money market instruments. The process of blending together the broad assets classes so as to obtain optimum return with minimum risk is referred to as portfolio management. It suggests that keeping a portfolio of single security may lead to higher risk than to a diversified portfolio which may provide a balanced return. Portfolio management service is one of the merchant banking activities recognized by SEBI. Merchant bankers take up the management of a portfolio of securities on behalf of their clients, providing special services with a view to ensuring maximum return by such investment with minimum risk of

loss of return on the money invested in securities. In performing the services of portfolio management, a merchant banker has to enquire the investment needs of clients, their tax bracket, ability to bear risk, marketability and liquidity of securities, reasonable return on investment etc.

ROLE IN THE MARKET:

Merchant bankers play an important role in public issue process. While acting as a banker to an issue, a merchant banker has to disclose full details to the Securities Exchange Board of India (SEBI). The economy of country gets affected by unpredictable condition such as inflation, unemployment etc there should be steady growth in economy of the country, for this long-term financial planning is required and merchant banking provides services, solution for it. These banks work as intermediators between two organizations, the one who lends the money and one who borrows it. They also provide advisory on financial issues and they charge fees for it. They also invest their capital in client's business. They help their client with different financial options as merchant bank's branches all over the world. In this way client gets more opportunity for steady growth.

Merchant banking commission:

As it is determined by the finance minister and government of India. Merchant banker are allowed and eligible to charge commission/ fees by their clients as they are detailed below.

- 1) Merchant banker are allowed to charge 0.5% maximum commission on all of the issue.
- 2) They can charge project analysis fees from their clients.
- 3) The lead manager can claim 0.5% of commission up to 25 crore and 2% of commission when it excesses 25 crores.
- 4) Underwriting Commission

Type Of Security	On amount devolving on underwriting	On amount subscribed by public
Equity Shares	2.50%	2.50%
Preference share/ debenture		
a) Upton Rs. 5 lakhs	2.50%	1.50%
b) Excess of Rs. 5 lakhs	2.00%	1.00%

- 5) Brokerage commission 1.5%

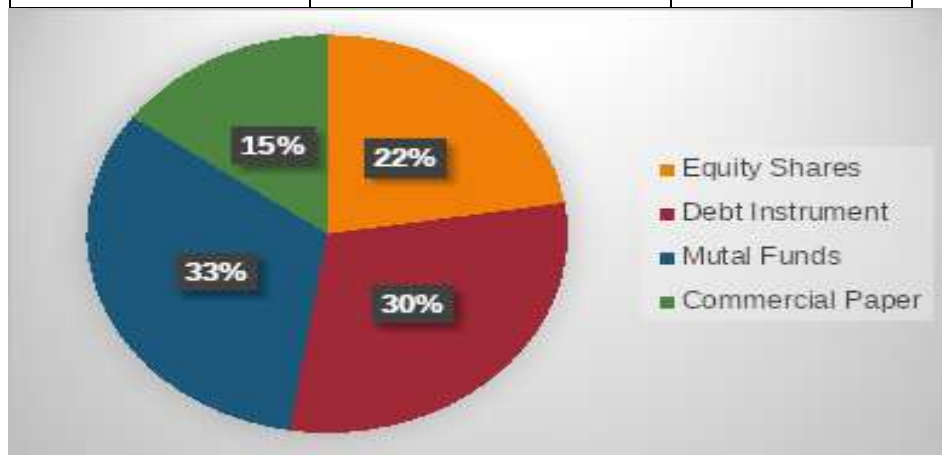
SERVICES OF MERCHANT BANKING:

Following are some services provided to customer by merchant banker:

1. Issue management: In this service merchant banker issues share and debentures to general public.
2. Portfolio counselling: In this service merchant bank invests in different form of financial instruments on behalf of clients and manager as a whole investment.
3. Project counselling: Project counselling consist of filling up application forms and trying to fund through financial institutions.
4. Loan syndication: In this bank provide loans for the projects that need money.

Type of security merchant bank deal with:

Sr. No	Type Of Security	Percentage
1.	Equity share	22.5
2.	Debt Instrument	30
3.	Mutual Funds	32.5
4.	Commercial Papers	15



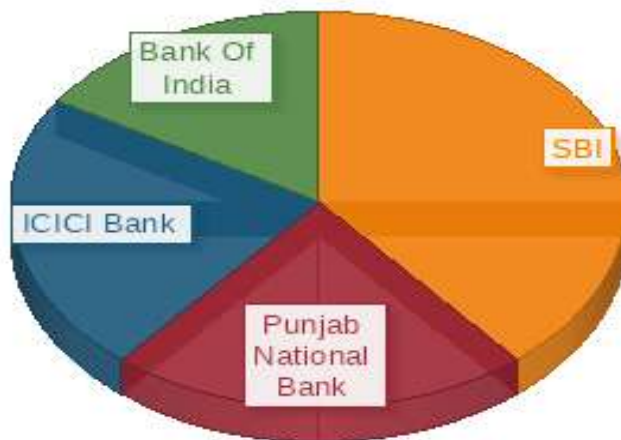
RECENT DEVELOPMENT IN MERCHANT BANKING:

The best time for merchant banking was 1985-1992. Previously merchant banks would deal with larger more complexes and highly structured loans and equity deals etc but now highly skilled individuals are setting up their own businesses and assisting in deal structuring and apart from a balance sheet the need for a merchant banker is slowly being eroded. Soon larger balance sheet transactions will also be provided like fintech's do today for small business loans and personal lending. Merchant banking like all banking will continue to face challenges to stay relevant and cost efficient. By introducing new financial instruments, merchant banker gets more and more opportunity. The financial surplus of general public is productively invested. They help intermediaries for various issues;

registrar, banker, underwriter, printers etc. and they ensure that they follow rules and regulation. The early growth in merchant banking in the country was assigned to the Foreign Exchange Regulation Act, 1973 (FERA). Early the merchant banking was mid-serviced and operated by the commercial bank and financial services institution and brokers firms entering in the field of merchant banking with various ideas and technique enter in the merchant banking. The period of 1974-1982 was the boom period of merchant banking.

Merchant Banking Service Offered by Bank in India:

Sr no	Banks Name	Percentage
1.	SBI	35
2.	Punjab national bank	20
3.	ICICI Bank	20
4.	Bank Of India	15
5.	Others	10



CONCLUSION:

This study helped me to understand details of merchant banking. The services provided by merchant bankers to their customer such as loan syndication, portfolio management, underwriting, consoling etc. They also work as an intermediary to share issue. All merchant banks are registered under security exchange board of India (SEBI). Merchant banking helps to grow Indian economy. Hence merchant banking is essential body in Indian financial system. Although these banks are subject to many rules and regulations framed by the SEBI as well as the Reserve Bank of India, they continue to flourish. Now with changing international conditions and consumer trends, it is up to the government to bring

in reforms which protect the interests of the customers as well as provide a platform for these banking services to prosper.

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THE IMPACT OF THE COVID-19 PANDEMIC ON STUDENT ACADEMIC PERFORMANCE

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ABSTRACT:

The Covid-19 pandemic and lockdown has impacted students across the world by keeping them away from their peers, cutting down physical activity, and making them miss key aspects of their growing up. Here's how the lockdown impacted the mental health of students. They are more likely to be negatively affected by events that cause significant upheaval in daily life. The changes imposed by COVID-19, such as physical distancing, school closures, and reductions in community-based services all have the potential to weaken the systems of support necessary for these children to learn and develop.

KEYWORD: Covid -19, Impact, Academic performance, university students,

INTRODUCTION:

Coronavirus disease 2019 (COVID-19) is firstly identified in Wuhan city, Hubei Province, China in December 2019 as a pneumonia of unknown origin. COVID-19 outbreak spreads rapidly not only in China, but also worldwide, therefore, the World Health Organization (WHO) has announced it as pandemic on March 12, 2020. The total number of confirmed cases and mortalities are 23,491,520 and 809,970, respectively, in 216 countries as of August 25, 2020

COVID-19 pandemic has affected all levels of the education system educational institutions around the world (in 192 countries) have either temporarily closed or implemented localized closures affecting about 1.7 billion of student population worldwide. Many universities around the world either postponed or canceled all campus activities to minimize gatherings and hence decrease the transmission of virus. However, these measures lead to higher economical, medical, and social implications on both undergraduate and postgraduate communities.

REVIEW OF LITERATURE:

This was not the first time when conventional education activities were suspended. SARS coronavirus (SARSCOV) also negatively impacted conventional education activities of a large number of countries around the globe and not just SARS- COV but H1N1 Flu outbreak also negatively impacted education activities in 2009. Similarly, Covid-19 compelled academic experts to reconsider the traditional way of face learning and they started considering distance learning as a feasible option to fill the classroom void for duration of three to four months, thus reducing the risk of infection for students before conventional activities are resumed (Kaur, 2020). Online courses are provided by hundreds of institutions but two problems exist. First, from a macro viewpoint, very little is established regarding the effects and efficacy of online education (McPherson & BACOW, 2015). Second, the capacity to successfully teach digitally is likely to differ based on the wide range of learning goals that guide our instructional and educational priorities (Liguori & Winkler, 2020). Online learning can be effective in digitally advanced countries (2020) which is why in Pakistan it is ineffective. However, in Pakistan, a significant deal of learning and teaching, as well as administrative activities of academic institutions are handled manually (Salam, Pathan, & Lei, 2017). Lack of access to fast, affordable and reliable internet connections hinders the process of online learning especially for those who are living in rural as well as marginalized communities of Pakistan (Wains & Mahmood, 2008). Students who access the internet through smartphones are unable to take advantage of online learning because a significant amount of online content is not accessible via smartphones. The unexpected change to online learning became a measure of organizational agility (Wu, 2020), with several academic institutions primarily focused on the transfer of educational content to the digital world and not specifically on online teaching and delivery methods. Nonetheless, it was a reminder of the lack of resources in academic institutions and the social marginalization of students, where insufficient access and availability of the internet and the lack of latest technology affected organizational responsiveness and students' capacity to participate in digital learning (Zhong, 2020). Lack of proper interaction with instructors is another major concern associated with online learning. Additionally, concerns regarding any content of the online course are usually discussed with the relevant course instructor by e-mail, which requires response time (Zhong, 2020). Virtual classes cannot be of interest to students who are tactile learners.

OBJECTIVES:

Is there any effect (positive or negative) of the COVID-19 on the academic performance of students in Mumbai?

To what extent are the Mumbai students satisfied with online teaching during the COVID-19 outbreak?

METHODOLOGY:

The current research study used a quantitative research design in which a survey questionnaire was adapted to examine the effects of COVID-19 on the academic performance of students and their level of satisfaction with online teaching. The obtained data were analyzed through descriptive and inferential statistical analysis. The researcher employed descriptive statistics to identify the frequency, percentage, the mean, and standard deviation of the respondents' demographic profile as well as to measure their level of satisfaction with online teaching.

DATA COLLECTION:

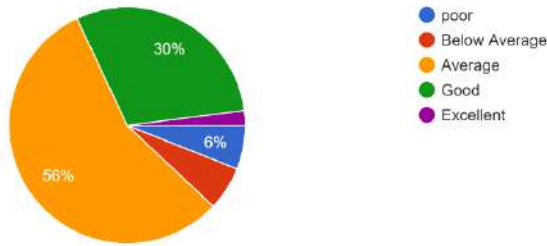
Sample size was calculated to be 100 participants as a minimum number of participants. Data collection was done using a spreadsheet linked to the online google form questionnaire. Data collection was done during the period from 25th February 2022 to 28th February 2022.

Demographic Characteristics of Participants

STREAM	BAF	BBI	B.COM	BMS	SCIENCE	IT	other
Response	12	7	11	3	6	4	7
Academic year	1 st year	2 nd year	3 rd year	4 th year			
Response	5	31	11	3			
Gender	Male	Female					
Response	17	33					

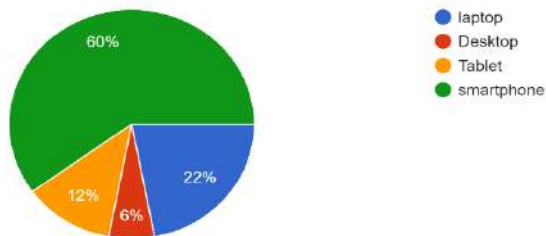
A survey was conducted to collect the responses to identify the satisfaction and performance regarding online classes during the pandemic period the pandemic of covid 19

How do you feel overall about online learning?
50 responses



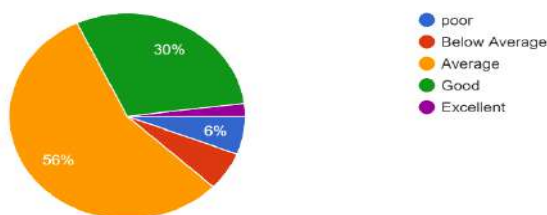
From the above Question we came to understand out of 50 respondents 46.3% students did not to attend the online education as average. Although it is popular amongst quite a good amount (30%)

what device do you use for online learning?
50 responses



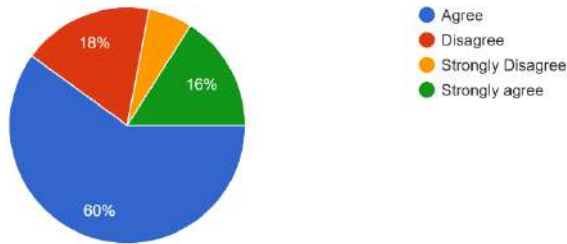
Almost 67.4% percentile of students are using mobile to attend the online lecture. It is found that students were not having laptop and that was creating stress in their online mode of teaching.

How do you feel overall about online learning?
50 responses



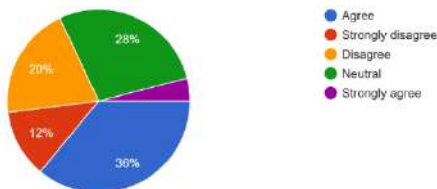
Through this pie chart we can conclude that out of 50 respondents 60.3% percentile students felt online learning was average and not up to the mark as there was communication gap, network issues, no face to face interaction and so on.

Do you faced any technical issues?
50 responses



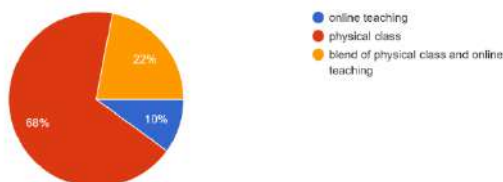
By conducting this survey almost 67.4% percentile of students faced technical issues.

Do you agree that in online mode you have access to more resources ?
50 responses



In the survey around 60.4% percentile of students identified some benefits in online learning like having access to recorded lecture having more access to faculties through e-mail etc.

Do you recommend online teaching mode or physical class or blend of physical class and online teaching ?
50 responses



Out of the 50 respondent 68% percentile of students preferred attend physical classes than online learning

The Effect of COVID-19 Pandemic Lockdown on Academic Performance:

The current data showed that the Most of participants believed that COVID-19 pandemic lockdown affected their academic performance with varying degrees. The result show that out of 50 respondents 46.3% of students did not like online education mode. It was also discovered that 67.4% percentiles students were facing issues (internet, electricity etc..) through this survey we came to understand 62.8% percentile students preferred to attend physical classes as it was easier to

understand the explanation by lecturer. But in the survey around 60.4% percentile of students identified some benefits in online learning like having access to faculties through e-mail etc.

Recommendations to Improve Online Learning:

The universities should provide platforms for online learning with easy access to the study materials. Provide students with electronic devices, such as computers, and tablets to access the internet. Provide training for lecturers on e-learning tools and computer skills. Improve the way of teaching to encourage students to learn and attract them to study online. Provide live streaming directly from the practical laboratory. Decrease the amount of classwork could help reducing students' stress. Increase the available time to solve the online tests, Practical learning throughout interactive tools, such as videos and 3D animation is significantly more effective than text materials such as power point and pdf, voice recordings should be provided with the lecture's text.

CONCLUSION:

The findings revealed that COVID-19 negatively affected the academic performance of students of Mumbai. There are some advantages in online but students prefer physical classes, because they participate more and more fun and physical activity which was not there in online studies.

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The study of effect of covid on different sector

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ABSTRACT:

This paper empirically investigates the impact of COVID-19 on the volatility of stock prices of different sectors in India with the help of a generalized autoregressive conditional heteroscedasticity model. Closing prices of stock indices, Nifty and Sensex from 10 March 2017 to 26 February 2022 has been used for the analysis. Further, the study has been attempted to make a comparison of stock price return in pre-COVID-19 and during COVID-19 situation. Findings reveal that the stock market in India has experienced volatility during the pandemic period. While comparing the result during COVID period with that of the pre-COVID, we found that the return on the indices is higher in the pre-COVID-19 period than during COVID-19.

KEYWORDS: COVID-19, stock market, economy

INTRODUCTION:

The rapid spread of the unprecedented COVID-19 pandemic has put the world in jeopardy and changed the global outlook unexpectedly. Initially, the SARS-CoV-2 virus, which caused the COVID-19 outbreak triggered in Wuhan city, Hubei province of China in December 2019, and with time it spread all over the globe. This pandemic is not only a global health emergency but also a significant global economic downturn too. As many countries adopt strict quarantine policies to fight the unseen pandemic, their economic activities are suddenly shut down. Transports being limited and even restricted among countries have slowed down global economic activities. Most importantly, consumers and firms have prevented their usual consumption patterns due to the creation of panic among them and created market abnormality.

There are two major stock indices in India—Bombay Stock Exchange (BSE), Sensex, and National Stock Exchange (NSE), Nifty. If we look at the Bombay Stock Exchange there is a drop in the Sensex index to 13.2% on March 23, 2020. It was the highest single they fall after the news of the Harshad Mehta Scam,

April 28, 1991 (Mandal,2020). Similarly, Nifty has also declined to almost 29% during this period. Some economists have considered the impact of COVID-19 on the Indian stock market as a “black swan event,” that is, the occurrence of a highly unanticipated event with an extremely bad impact.

Despite the several literatures on the impact of COVID-19 on the stock market of the entire economy, there is limited study on it especially in the case of an emerging economy. To shed light on this aspect, this paper attempts to investigate the impact of COVID-19 on the two important stock market of India. GJGARCH (Glosten–Jagannathan–Runkle (GJR) generalized autoregressive conditional heteroscedasticity (GJR GARCH) model is used to make the study more significant in terms of volatility in stock index prices due to the outbreak of the pandemic and lockdown policy adopted by the Indian Government. Major findings of the study reveal the volatile nature of BSE Sensex and NSE Nifty, the two prominent stock market of India.

According to semi-strong Efficient Market Hypothesis, current market prices not only reflect information about historical prices of stocks, but also reflect information, which is publicly available. In semi-strong form of market efficiency, there can be some lag time before the price fully reflects all available information. This time lag can vary depending on the market, on the individual security, and the way in which information is shared. The present study attempts to gather evidence in support (if any) of the semi-strong form of EMH in the Indian stock market. (Foster, 2012). The authors of this study made an effort to examine the impact of the lockdown on the stock market and its effect on the Average Abnormal Return of various stocks.

LITERATURE REVIEW:

The impact of COVID-19 on the financial market as well as the stock market has been subject to many empirical studies both in advanced and emerging economies. Existing literature found diverse results in these regards. Ozili and Arun (2020) have conducted an empirical study on the effect of social distancing policy that was adopted to prevent the spread of the Coronavirus, based on four continents: North America, Africa, Asia, and Europe. The study found that 30 days of social distancing policy or lockdown hurts the economy through its negative impact on stock prices. Azimili (2020), also researched on understanding the impact of coronavirus on the degree and structure of risk-return dependence in the United States using quantile regression. The results indicate that following the COVID-19 outbreak the degree of dependence between returns and market portfolio has raised in the higher quantiles that lowering the benefits of diversification. The author also studied the GSIC and stock return relationship and found that the GSIC return relationship revealed an asymmetric pattern, lower tails influenced negatively almost twice as compared to the upper tails. Shehzad et al. (2020) conducted a study to analyze the nonlinear behaviour of the financial market of the United States, Italy, Japan, and China

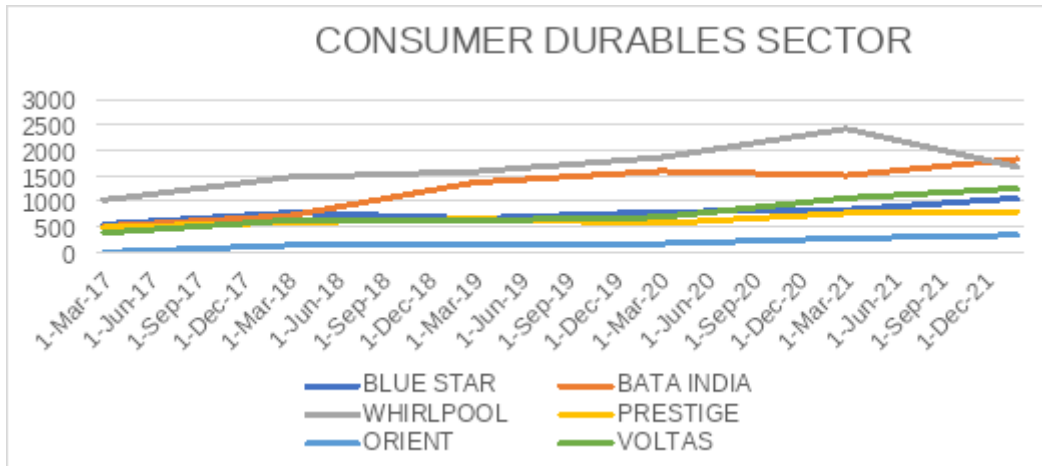
market return by applying the asymmetric power GARCH model. The study confirmed that COVID-19 harm the stock returns of the S&P 500. However, it revealed an inconsequential impact on the Nasdaq composite index. An empirical study conducted by Cepoi (2020) on the relationship between COVID-19 related news and stock market returns across the topmost affected countries. By employing a panel quantile regression this study found that the stock market presents asymmetry dependence on COVID-19 related information According to Herrero (2020), the third wave of the COVID-19 pandemic has hit the emerging economy worst resulting decrease in business activities. This unprecedented shock increases the risk-averse nature which increases the financial cost. Latin America is affected worst because of its much dependency on external financing. Due to the restriction on transport, export has declined. Restriction in the international movement has hampered the tourism sector leading to a fall in revenue. The emerging market economies face a credit crunch, also referred to as capital flows (Ahmed et al., 2020). Goldberg and Reed (2020) discussed the negative effect of COVID-19 on the trade of emerging economy. Consequently, the interest rate on emerging market sovereign debt spiked. Frankel (2020) analyzed the economic effect of the pandemic on the emerging economy. COVID-19 has reduced the revenue of those economies by restricting export, tourism receipts, and remittances of migrant workers. Raja Ram (2020) in his study has found that COVID-19 crashes the entire global share. Indian stock market also experienced sharp volatility due to the collapse of the global financial market. Again, fall in foreign portfolio investments also reduces the return of the Indian stock market. By analyzing the history of all unexpected events, the author has considered COVID-19 also a “black swan” event. Ravi (2020) has compared the pre-COVID-19 and during COVID-19 situation of the Indian stock market. His findings revealed that before COVID-19, that is, at the beginning of January, trade of NSE and BSE were at their highest levels hitting peaks of 12,362 and 42,273, respectively showing favorable stock market conditions. After the outbreak of the COVID-19, the stock market came under fear as BSE Sensex and NSE Nifty fell by 38%. It leads to a 27.31% loss of the total stock market from the beginning of this year. The stock of some other sectors such as hospitality, tourism, and entertainment has been dropped by more than 40% due to transport restrictions. Mandal (2020) has rigorously analyzed the agony of the deadly pandemic on the Indian stock market. Findings reveal that BSE Sensex has witnessed the biggest single day fall of 13.2% that has surpassed the infamous fall of April 28, 1992. Nifty also has a steep dive of 29%, overtaking the disaster of 1992. As people have compressed their consumption only to necessary products only the FMCG Company has shown a positive return whereas other companies face a sharp decline (Rakshit & Basistha, 2020).

METHODOLOGY:

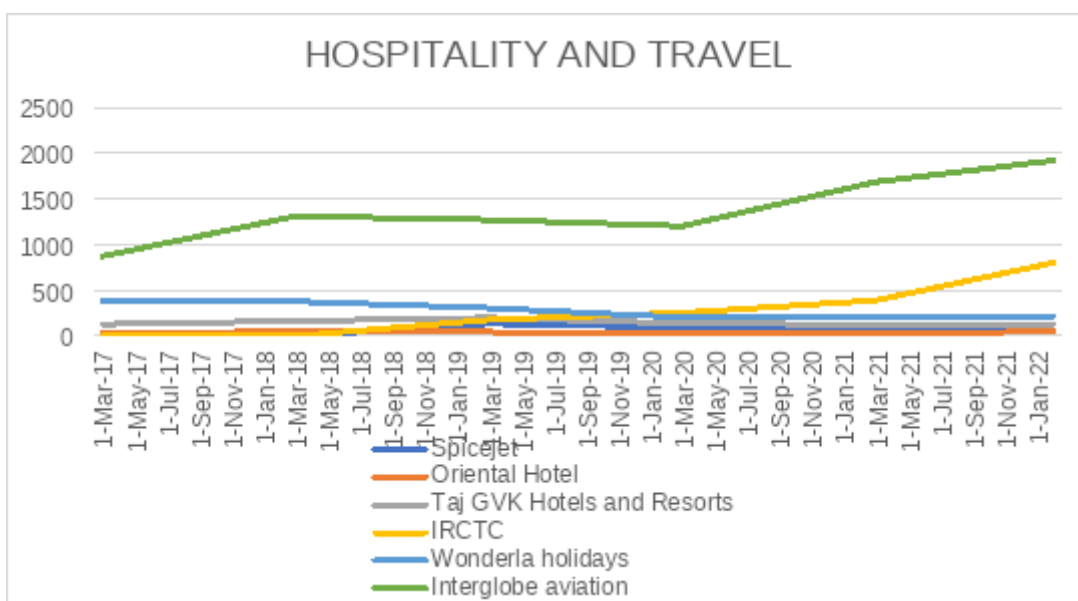
For this research, we collected all the stock price of Consumer durables sector, Hospital and travel sector, Automobile sector, Finance sector, Media and Entertainment sector, Industrial sector from March 2017

to 26 February 2022 quarterly. For analysis we did use of Trend analysis. The nature of paper is empirical and quantitative.

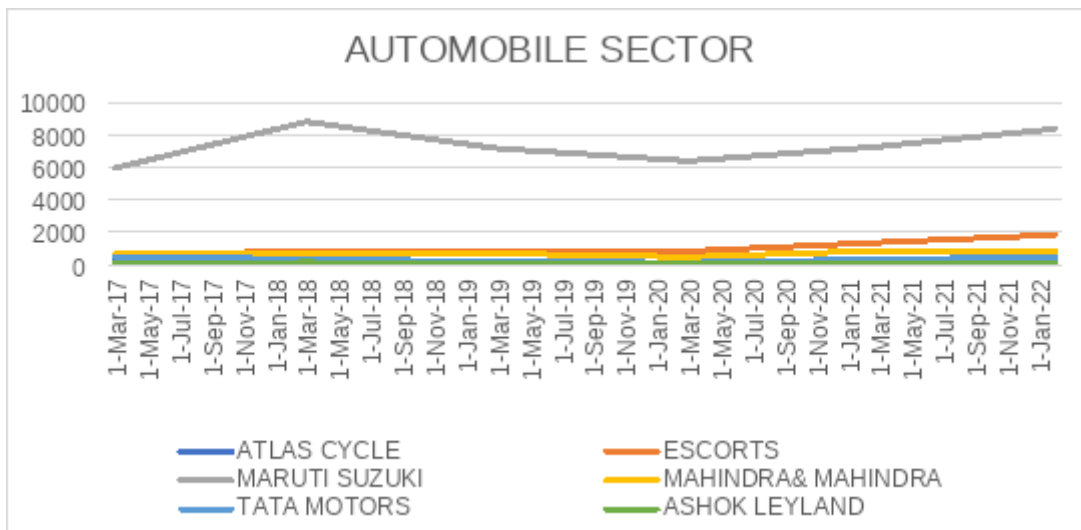
ANALYSIS:



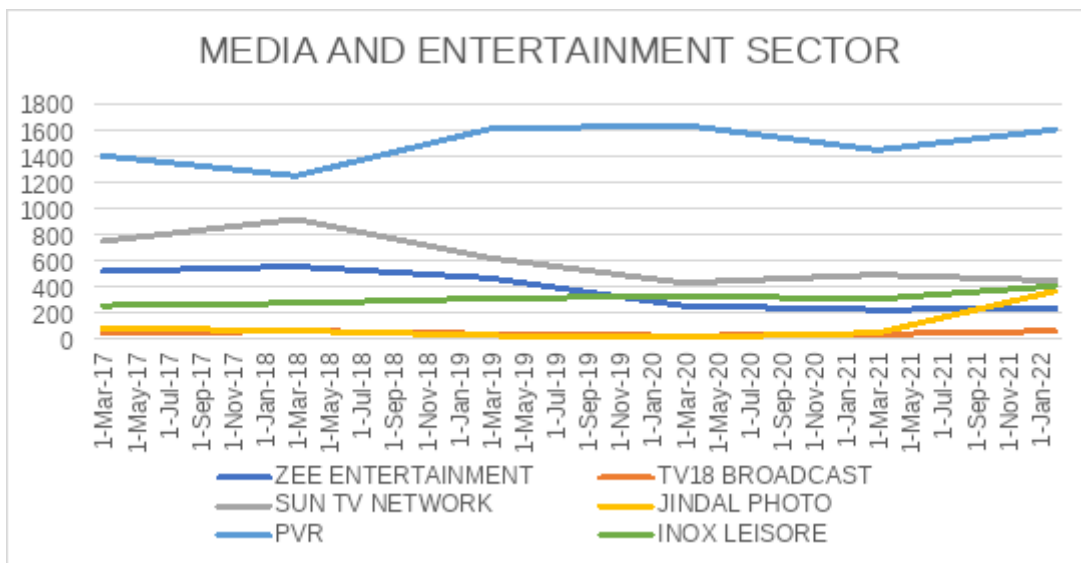
For the above graph we get to know the effect of covid on the CONSUMER DURABLES SECTOR. Companies like BLUE STAR and BATA INDIA had a year-to-year growth percentage of 5.09% and 5.23% respectively they were able to revive their company, but the growth was not significant. Whereas companies like WHIRLPOOL and PERSTIGE had a significant growth with a year-to-year growth percentage of 30.30% and 35.07% respectively and they were able to revive their company. On the other hand, ORIENT and VOLTAS were able to build trust in people and made a remarkable year-to-year growth percentage of 61.81% and 54.52% respectively. CONSUMER DURABLE SECTOR was not affected by this pandemic.



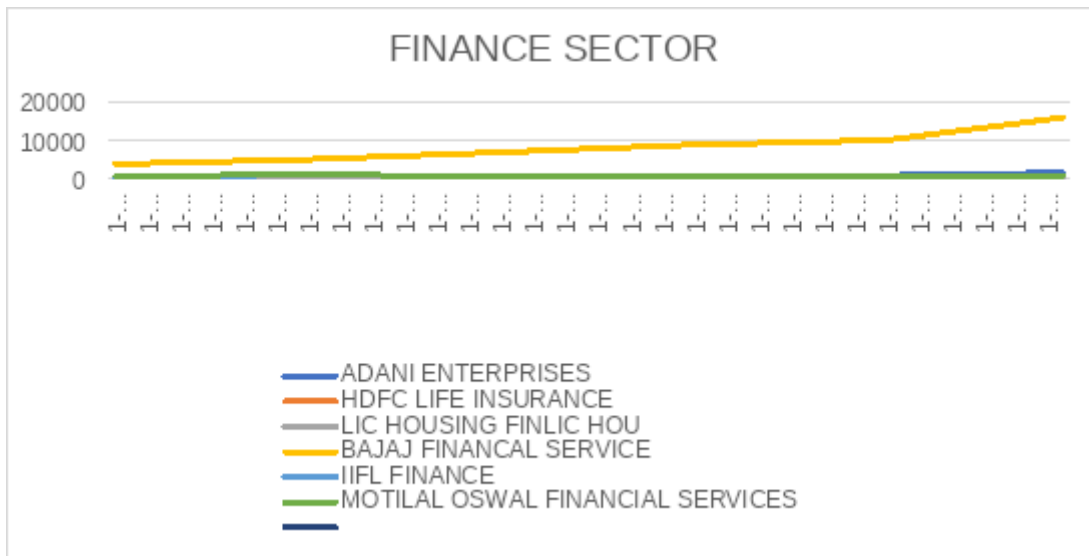
For the above graph we get to know the effect of covid on the HOSPITALITY AND TRAVEL SECTOR. Companies like ORIENTAL HOTEL and WONDERLA HOILDAYS had a year-to-year growth percentage of 6.44% AND 6.03% respectively they were able to revive their company, but the growth was not significant. On the other hand, IRCTC and INTERGLOBE AVIATION were able to build trust in people and made a remarkable year-to-year growth percentage of 42.98% and 40.26% respectively. Whereas companies like SPICEJET and TAJ GVK Hotels and resorts lost a lot of stakes in the market. Their year-to-year growth percentage was -9.07% and -9.88% respectively.



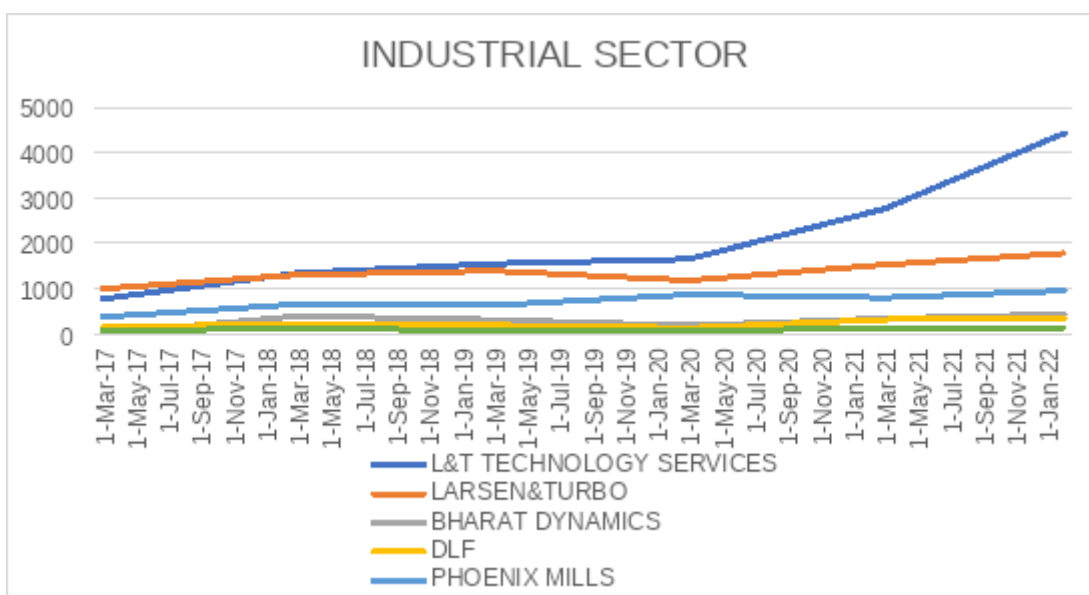
For the above graph we get to know the effect of covid on the AUTOMOBILE SECTOR. In this sector, all companies had a remarkable growth compared to other sectors. Atlas cycle and Maruti Suzuki had decent year-to-year growth percentage of 22.19% and 13.91% respectively. Escorts, Mahindra & Mahindra and Ashok Leyland had an excellent year with a excellent year-to-year growth of 64.20%, 82.10% and 71.20% respectively. Tata motors had a year-to-year growth percentage of 166.20% with is very impressive.



For the above graph we get to know the effect of covid on then MEDIA AND ENTERTAINMENT SECTOR. The effect on this sector was very diverse. Companies like Zee TV, TV18 Broadcast and Sun TV had a good year-to-year growth percentage of 71.96%,58.18% and 14.44% respectively. Whereas Jindal Photo had a remarkable year-to-year growth percentage of 299.09%. On the other hand, PVR and Inox Leisure faced lost. Their year-to-year growth percentage was -11.60% and -14.36%.



For the above graph we get to know the effect of covid on the FINANCE SECTOR. Companies like HDFC life insurance, Bajaj financial service and LIC financial housing had a good year-to-year growth percentage of 34.15%,13.54% and 34.98%. Adani enterprises had an remarkable year-to-year growth percentage of 306.22%. IIFL finance had great year-to-year growth percentage of 90.13%. Motilal Oswal financial services had a rough year and their year-to-year growth percentage of -13.11%.



For the above graph we get to know the effect of covid on the INDUSTRIAL SECTOR. DLF had an impressive year-to-year growth percentage of 144.65%. L&T technology services, Indian bulls real estate and Bharat dynamics had a great year-to-year growth percentage of 67.38% ,53.57% and 83.04%. Whereas PHOENIX mills had a bad year-to-year growth percentage of -7.90%.

CONCLUSION:

From the above research, we can conclude that during covid the stocks price had gone down but there was a prominent revival from the sector. Almost all the companies in all the sectors were able to revive and few manage quick revive. Investor gained trust on stocks and companies. Indian economy could have got even worse but the companies were saved it from recession.

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THE IMPACT OF THE COVID-19 PANDEMIC ON STUDENT ACADEMIC PERFORMANCE

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ABSTRACT:

The Covid-19 pandemic and lockdown has impacted students across the world by keeping them away from their peers, cutting down physical activity, and making them miss key aspects of their growing up. Here's how the lockdown impacted the mental health of students. They are more likely to be negatively affected by events that cause significant upheaval in daily life. The changes imposed by COVID-19, such as physical distancing, school closures, and reductions in community-based services all have the potential to weaken the systems of support necessary for these children to learn and develop.

KEYWORD: Covid -19, Impact, Academic performance, university students,

INTRODUCTION:

Coronavirus disease 2019 (COVID-19) is firstly identified in Wuhan city, Hubei Province, China in December 2019 as a pneumonia of unknown origin. COVID-19 outbreak spreads rapidly not only in China, but also worldwide, therefore, the World Health Organization (WHO) has announced it as pandemic on March 12, 2020. The total number of confirmed cases and mortalities are 23,491,520 and 809,970, respectively, in 216 countries as of August 25, 2020

COVID-19 pandemic has affected all levels of the education system educational institutions around the world (in 192 countries) have either temporarily closed or implemented localized closures affecting about 1.7 billion of student population worldwide. Many universities around the world either postponed or canceled all campus activities to minimize gatherings and hence decrease the transmission of virus. However, these measures lead to higher economical, medical, and social implications on both undergraduate and postgraduate communities.

REVIEW OF LITERATURE:

This was not the first time when conventional education activities were suspended. SARS coronavirus (SARSCOV) also negatively impacted conventional education activities of a large number of countries around the globe and not just SARS- COV but H1N1 Flu outbreak also negatively impacted education activities in 2009. Similarly, Covid-19 compelled academic experts to reconsider the traditional way of face learning and they started considering distance learning as a feasible option to fill the classroom void for duration of three to four months, thus reducing the risk of infection for students before conventional activities are resumed (Kaur, 2020). Online courses are provided by hundreds of institutions but two problems exist. First, from a macro viewpoint, very little is established regarding the effects and efficacy of online education (McPherson & BACOW, 2015). Second, the capacity to successfully teach digitally is likely to differ based on the wide range of learning goals that guide our instructional and educational priorities (Liguori & Winkler, 2020). Online learning can be effective in digitally advanced countries (2020) which is why in Pakistan it is ineffective. However, in Pakistan, a significant deal of learning and teaching, as well as administrative activities of academic institutions are handled manually (Salam, Pathan, & Lei, 2017). Lack of access to fast, affordable and reliable internet connections hinders the process of online learning especially for those who are living in rural as well as marginalized communities of Pakistan (Wains & Mahmood, 2008). Students who access the internet through smartphones are unable to take advantage of online learning because a significant amount of online content is not accessible via smartphones. The unexpected change to online learning became a measure of organizational agility (Wu, 2020), with several academic institutions primarily focused on the transfer of educational content to the digital world and not specifically on online teaching and delivery methods. Nonetheless, it was a reminder of the lack of resources in academic institutions and the social marginalization of students, where insufficient access and availability of the internet and the lack of latest technology affected organizational responsiveness and students' capacity to participate in digital learning (Zhong, 2020). Lack of proper interaction with instructors is another major concern associated with online learning. Additionally, concerns regarding any content of the online course are usually discussed with the relevant course instructor by e-mail, which requires response time (Zhong, 2020). Virtual classes cannot be of interest to students who are tactile learners.

OBJECTIVES:

Is there any effect (positive or negative) of the COVID-19 on the academic performance of students in Mumbai?

To what extent are the Mumbai students satisfied with online teaching during the COVID-19 outbreak?

METHODOLOGY:

The current research study used a quantitative research design in which a survey questionnaire was adapted to examine the effects of COVID-19 on the academic performance of students and their level of satisfaction with online teaching. The obtained data were analyzed through descriptive and inferential statistical analysis. The researcher employed descriptive statistics to identify the frequency, percentage, the mean, and standard deviation of the respondents' demographic profile as well as to measure their level of satisfaction with online teaching.

DATA COLLECTION:

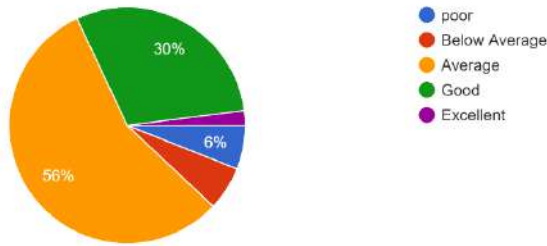
Sample size was calculated to be 100 participants as a minimum number of participants. Data collection was done using a spreadsheet linked to the online google form questionnaire. Data collection was done during the period from 25th February 2022 to 28th February 2022.

Demographic Characteristics of Participants

STREAM	BAF	BBI	B.COM	BMS	SCIENCE	IT	other
Response	12	7	11	3	6	4	7
Academic year	1 st year	2 nd year	3 rd year	4 th year			
Response	5	31	11	3			
Gender	Male	Female					
Response	17	33					

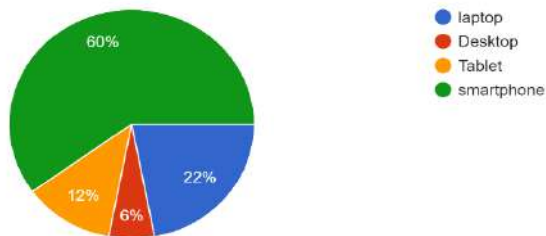
A survey was conducted to collect the responses to identify the satisfaction and performance regarding online classes during the pandemic period the pandemic of covid 19

How do you feel overall about online learning?
50 responses



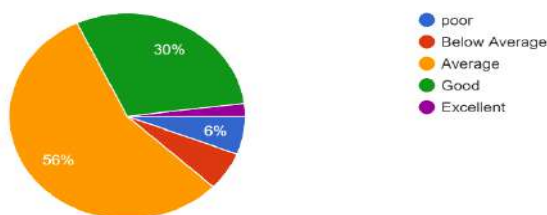
From the above Question we came to understand out of 50 respondents 46.3% students did not to attend the online education as average. Although it is popular amongst quite a good amount (30%)

what device do you use for online learning?
50 responses



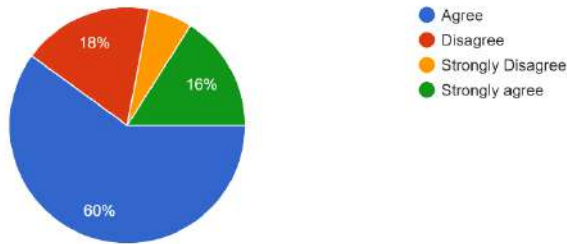
Almost 67.4% percentile of students are using mobile to attend the online lecture. It is found that students were not having laptop and that was creating stress in their online mode of teaching.

How do you feel overall about online learning?
50 responses



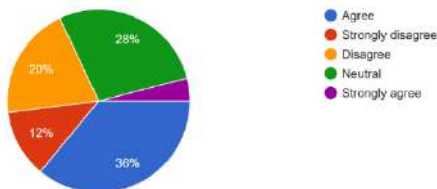
Through this pie chart we can conclude that out of 50 respondents 60.3% percentile students felt online learning was average and not up to the mark as there was communication gap, network issues, no face to face interaction and so on.

Do you faced any technical issues?
50 responses



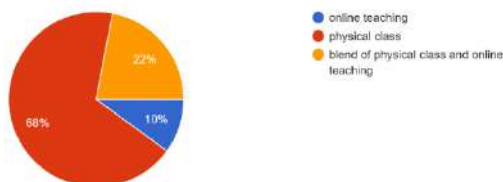
By conducting this survey almost 67.4% percentile of students faced technical issues.

Do you agree that in online mode you have access to more resources ?
50 responses



In the survey around 60.4% percentile of students identified some benefits in online learning like having access to recorded lecture having more access to faculties through e-mail etc.

Do you recommend online teaching mode or physical class or blend of physical class and online teaching ?
50 responses



Out of the 50 respondent 68% percentile of students preferred attend physical classes than online learning

The Effect of COVID-19 Pandemic Lockdown on Academic Performance:

The current data showed that the Most of participants believed that COVID-19 pandemic lockdown affected their academic performance with varying degrees. The result show that out of 50 respondents 46.3% of students did not like online education mode. It was also discovered that 67.4% percentiles students were facing issues (internet, electricity etc..) through this survey we came to understand 62.8% percentile students preferred to attend physical classes as it was easier to

understand the explanation by lecturer. But in the survey around 60.4% percentile of students identified some benefits in online learning like having access to faculties through e-mail etc.

Recommendations to Improve Online Learning:

The universities should provide platforms for online learning with easy access to the study materials. Provide students with electronic devices, such as computers, and tablets to access the internet. Provide training for lecturers on e-learning tools and computer skills. Improve the way of teaching to encourage students to learn and attract them to study online. Provide live streaming directly from the practical laboratory. Decrease the amount of classwork could help reducing students' stress. Increase the available time to solve the online tests, Practical learning throughout interactive tools, such as videos and 3D animation is significantly more effective than text materials such as power point and pdf, voice recordings should be provided with the lecture's text.

CONCLUSION:

The findings revealed that COVID-19 negatively affected the academic performance of students of Mumbai. There are some advantages in online but students prefer physical classes, because they participate more and more fun and physical activity which was not there in online studies.

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A COMPREHENSIVE ANALYSIS OF FINANCIAL STATEMENT THROUGH CASE STUDY

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ABSTRACT:

The present study found that the “A study on financial position and performance analysis with special reference to Tata Consultancy Services” for a period of 12 years - 2010-2021. The data was collected from the company’s annual reports. In this research paper the data have been analyzed with the help of different accounting and statistical techniques has used to know the financial soundness of “TATA CONSULTANCY SERVICES”. This research helps us to understand the financial status and analyze profitability of TCS. This research helps us know about the financial health of the enterprise with the several methods of financial statement analysis. As per the performance and status of the company we can conclude that company's working process is stable.

KEY WORDS: Accounting and statistical techniques, Financial status, Financial statement analysis, Annual Reports.

INTRODUCTION:

The term financial analysis also known as analysis and interpretation of financial statement refers to the process of determining financial strengths and weakness of the firm by establishing strategic relationship between the items of the balance Sheet, profit & loss account and other operative data.

"Analyzing financial statement" according to Met calf and Tit card," is a process of evaluating the relationship between component part of a financial statement to obtain a better understanding of a firm, firm's portion & performance.

Tata consultancy service is a flagship company and a part of Tata groups. It is an IT services consulting and business solutions organization that has been partnering with many of the world’s largest business their transformation journey for over 50 years. TCS offers a consulting led, cognitive powered integrated portfolio of business, technology and engineering services and solutions. Period for which financial statement is from March 2010 to March 2021.

RELEVANCE OF THE STUDY:

We know that the analysis of financial statement helps the analyst to know the financial information from the financial data contained in the financial statement and to assess the financial health (ie strength and weakness) of an enterprise. It also helps to make a forecast for the future which helps us to prepare budgets and estimates. However, we highlight below the purpose or needs of the said analysis:

- It helps us to know the reasons for relative changes either in profitability or in the financial position as a whole
- It also helps to know both the short-term liquidity position vis-vis working capital position, as also the long-term liquidity and solvency position of a firm.
- It also highlights the operation efficiency and the present profit- earning capacity of the firm as a whole.
- High court, supreme court, arbitrators also require financial statement to settle various disputed matters.
- Various financial journal (viz RBI bulletins) newspaper etc. also requires financial statement for analyzing and scrutinizing the financial position of a firm for the reader.

OBJECTIVES:

1. To understand the financial status of the company.
2. To analyze the profitability of TCS over a period of time.
3. To understand financial stability through analysis of Balance Sheet.

METHODS OF FINANCIAL STATEMENT ANALYSIS:

There are several techniques used by analysts to develop fair understanding of the company's financial performance over a period. The three most practiced methods of financial analysis are- horizontal analysis, vertical analysis. And the ratio and trend analysis.

1. Horizontal analysis:

Performance of two or more periods are compared to understand company's progress over a period. Each component of a ledger is compared with the previous period to gather a general understanding of trends. For examples, if the cost of final goods rises by 20 percent in a year, but it is not reflected in the revenue earned then there may be some components which are costing the company more.

2. Vertical analysis:

Vertical analysis helps to establish a correlation between different line items in a ledger. It gives analysis are understanding of overall performance in terms of revenue and expenses. The results are reviewed as a ratio

3. Ratio analysis:

Ratio methods of financial analysis is used to compare one financial component against another and reveal a general upward or downward trend. Once the ratio is calculated it can be compared against the previous period of analyze if the company's performance is in accord with set of expectation. It helps management highlights any deviation from set expectation and take corrective measures.

4. Trend analysis:

It helps to analyze trend over three or more periods. It takes into account incremental change patterns, considering the earliest year as the base periods. A change in a financial statement will either reveal a positive or negative trend

ANALYSIS AND INTERPRETATION OF FINANCIAL STATEMENT OF TATA CONSULTANCY SERVICE:

Financial statement of TCS for the period from 2010 to 2021 has been analyzed using Excel.

5-a. Interpretation of Profit and Loss Account:

Key ratios like Operating profit ratio, Dividend payout ratio and Earnings per share are calculated to understand the profitability and Earnings of the company over a period of time.

5-a (i) Operating Profit Margin:

- According to the P/L Account of Tata company Operating Profit is fluctuating.
- Operating Profit Margin (OPM): Trend in operating profit margin
- In spite of increase in sales, operating profit did not show the same proportion increase. The reason for disproportion in sales and operating profit is due to increase in expenses of the company.

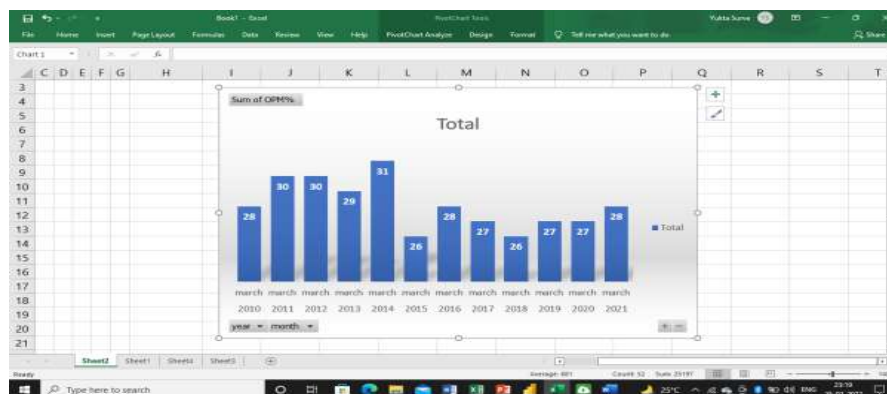


Fig. Operating Profit Margin

5-a (ii) Net Profit:

- Though trend of operating profit is fluctuating, Net profit of the company is showed increasing trend.
- Net Profit: Net profit of the company is increasing every year except for the March 2018 as shown in graph.

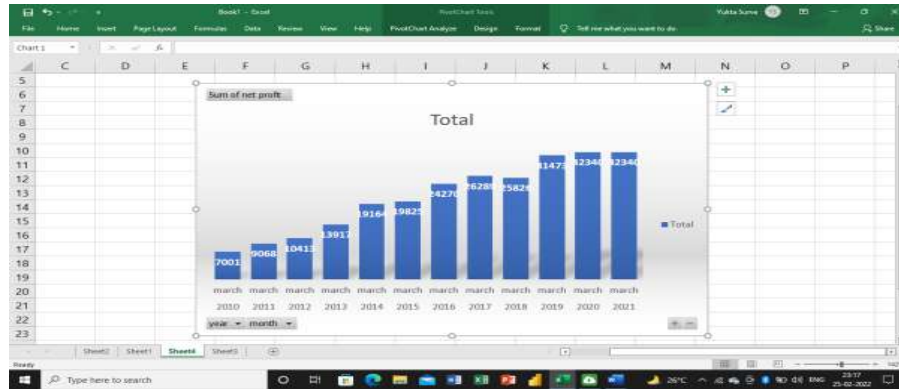


Fig. 2 Net Profit

5-a (iii) Comparison of Sales and Expenses:

- As the expenses have impact on operating profitability of the company, Sales and expenses over a period of time have been compared.
- As we make out that expenses have been exceed the sales of the company in the end.



Fig. 3 Sales and Expenses

5-a (iv) Earnings Per Share:

- As we compare Net profit and EPS of the company; company is giving good returns to their shareholders and during the pandemic situation also company is able to give highest earning as compare to before.

5-a (v) Dividend Pay Out ratio:

- The company's is paying better percent of dividend to its shareholders. In March 2020 company paid highest dividend.
- Upward trend in Dividend Pay Out ratio indicates better operating performance of the company.

5-b. Interpretation of Balance Sheet:

- As we can see company's borrowing funds are less as compare to share capitals for the better composition of capital structure, but in the year 2014 to 2018 company was dependent more on borrowed funds.

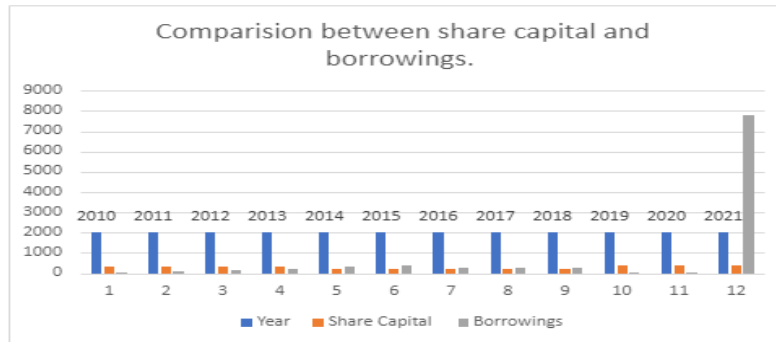


Fig.4 Comparison between share capital and borrowings

- Total Liabilities of the company is increasing year by year.
- Capital Work In Progress (CWIP) of the company is swinging as it got declined in the end.

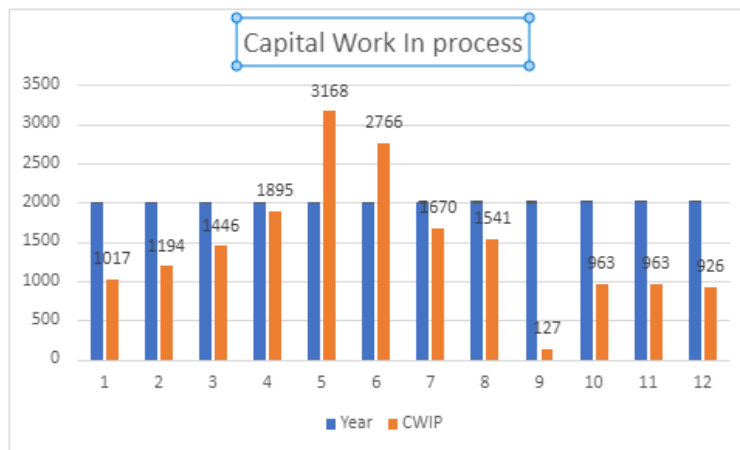


Fig.5 Capital Work in Progress.

- Fixed Asset of the company is not stable, it was highest in the year March 2018.
- Company is having good number of reserves.
- The Total Liabilities and Total assets of the company is balanced as shown in the balance sheet of the company, except for the year March 2021. Due to pandemic situation, there has been increased in overall liabilities and rapid decreased in assets of the company.

FINDINGS:

- Operating Profit margin is not satisfactory as the company's efficiency to manage operating expense is not favorable.
- Operating profit and Net profit of the company showed positive trend during pandemic reflected that TCS is not much affected.
- Investors of TCS have been assured with good return of Investment as Earning per share showed upward trend.
- Company policy on payment of dividend was not consistent as there is fluctuation in Dividend payout ratio.
- Company reliability on borrowed fund is decreased since 2010 and composition of share capital is increased compared to borrowed fund. It shows that the company is exposed to less financial risk and having strong financial stability.
- Trend in Capital Working Capital shows that cash flow for construction of capital asset is monitored by the company to avoid cash flow disasters.

CONCLUSION:

Tata Consultancy Services (TCS) is the largest software and services company not just in India but in Asia as well. It had pioneered the Global Network Delivery model and several other initiatives which had become industry standards. Not only that, TCS had a worldwide presence which no other company in India could match- In fact, TCS had a presence in more countries than most airlines. This led to the core creative idea of TCS -"Truly Global." Large organizations have been described as colossal forms a large wheel with many cogs, an elephant lumbering along. TCS business model and strategy have resulted in deep and enduring customer relationships, a vibrant and engaged workforce, a steady expansion of its addressable market, a strong reputation as a responsible corporate citizen and a proven track record in delivering longer term stakeholder value. For short term investment, TCS seems to be a low-risk option as its shares have performed consistently well.

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ANNEXURE:

Analysis of financial statement of TCS using Excel:

Tata Consultancy services (Protected View) - Excel

PROTECTED VIEW Be careful - files from the Internet can contain viruses. Unless you need to edit, it's safer to stay in Protected View. Enable Editing

Tata Consultancy Services (TCS)

Profit and Loss

	Mar-10	Mar-11	Mar-12	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19	Mar-20	Mar-21 TTM	
Sales +	30,029	37,325	48,894	62,989	81,809	94,648	1,08,646	1,17,966	1,23,104	1,46,463	1,56,949	1,64,177	1,71,266
Expenses +	21,487	26,146	34,459	44,950	56,657	70,167	77,969	85,655	90,588	1,06,957	1,14,840	1,77,631	1,22,081
Operating Profit	8,541	11,178	14,435	18,040	25,152	24,482	30,677	32,311	32,516	39,506	42,109	46,546	49,185
OPM %	28%	30%	30%	29%	31%	26%	28%	27%	26%	27%	27%	28%	29%
Other Income	425	604	428	1,178	1,637	3,720	3,084	4,221	3,642	4,311	4,592	1,916	2,039
Interest	16	26	22	48	39	104	33	32	52	198	924	637	614
Depreciation	661	735	918	1,080	1,349	1,799	1,288	1,987	2,014	2,056	3,529	4,065	4,164
Profit Before Tax	8,290	11,021	13,923	18,090	25,402	26,298	31,840	34,513	34,092	41,563	42,240	43,760	46,419
Tax %	14%	17%	24%	22%	24%	24%	24%	24%	24%	24%	23%	26%	
Net Profit	7,001	9,068	10,413	13,917	19,164	19,852	24,270	26,289	25,826	31,473	32,340	32,490	34,430
EPS in Rs	18	20	27	35.55	49	51	62	67	67	84	86	88	92
Dividend Payout %	56%	30%	47%	31%	33%	78%	35%	35%	37%	36%	85%	43%	

Tata Consultancy services (Protected View) - Excel

PROTECTED VIEW Be careful - files from the Internet can contain viruses. Unless you need to edit, it's safer to stay in Protected View. Enable Editing

Balance Sheet

	Mar-10	Mar-11	Mar-12	Mar-13	Mar-14	Mar-15	Mar-16	Mar-17	Mar-18	Mar-19	Mar-20	Mar-21
Share Capital+	296	296	296	296	196	196	197	197	191	375	375	370
Reserves	18,171	24,209	29,284	38,350	48,999	50,439	70,875	86,017	84,937	89,071	89,071	86,063
Borrowings	10	75	127	132	297	358	245	289	247	62	62	7795
Other Liabilities +	8,856	8,092	11,551	13,154	17,357	22,525	16,974	15,830	19,751	24,393	24,393	55,764
Total Liabilities	27,326	32,572	41,157	51,932	66,829	73,818	88,291	1,02,333	1,05,126	1,13,901	1,13,901	1,29,992
Fixed Assets +	6,738	7,479	8,662	9,828	9,544	11,638	11,774	11,701	1,19,373	12,290	12,290	21,021
CWIP	1,017	1,194	1,446	1,895	3,168	2,766	1,670	1,541	127	963	963	926
Investments	3,682	1,763	1,350	1,897	3,434	1,622	22,822	41,980	96,008	29,330	29,330	29,375
Other Assets +	15,888	22,136	28,698	38,312	5,062	57,252	52,025	47,111	55,867	71,318	71,318	78,672
Total Assets	27,326	32,572	41,157	51,932	66,829	73,818	88,291	1,02,333	1,05,126	1,13,901	1,13,901	19,992

Financial Inclusion: Behavioural Intention to adopt Payment Banking among College students in Mumbai during COVID-19- An extended TAM model

Aryaa Thakkar

Sarah D'Souza

Guide: Prof. J Gunasundari

FYBMS**FYBMS****Dept. of BMS****Vidyalankar School of Information Technology****Vidyalankar School of Information Technology****Vidyalankar School of Information Technology****ABSTRACT:**

After many decades, the term 'financial inclusion' was solemnised in the Indian banking sector. RBI has taken giant steps to reach small villages and low-income groups of people with the goal of reaching being a digital India. This is a similar proposal in which different non-banking monetary organizations are following the authority to ensure and empower basic bank services for each Indian national. Pradhan Mantri Jan Dhan Yojana collected the number of unbanked people within the country, and found out there are millions who are still inaccessible. The pandemic period severely increased the need for digital payments and hence there is now a possibility for payment banks to reach several people. According to the World Bank report, a 21% chunk of the Indian population is unbanked. The present paper deals with a perspective of college students on adopting payment banks during the pandemic period and the intentions for the same. For the aim of the study, both primary and secondary knowledge is used. The information collected is analysed using applicable statistical techniques. It will unanimously highlight the basics of payment banks in India among college students and its future.

KEY WORDS:

Financial Inclusion, Digital India, Non-Banking Monetary Organisations, Payment Banks and Pradhan Mantri Jan Dhan Yojana.

INTRODUCTION:

After the demonetisation, India has been slowly moving towards more cashless transactions. It took many decades for the banking sector in India to adopt 'financial inclusion'. Financial inclusion is where the banks services are available to every single person. The RBI has been encouraging payment banking in the country. Payment Banking has the right to provide certain banking services. These rights are given to non-banking monetary organisations. It is also striving to make sure that the rural areas have access to such technology to small villages. According the World Bank report 21% of the Indian population is still unbanked.

With the recent COVID-19 Pandemic, people have started to use payment banks. We see that majority of the users are the youngsters in India. Some of the popular payment banks are Google Pay, PhonePe, Paytm, etc. The youth prefer to use payment banking services as it is a better payment gateway and they do not require to carry cash with them at all times. Also, it is the most convenient option for them as, at the click of a button they can pay money. These payment banks often have tie-ups with other brands and offer different discounts when their users buy different products from them.

STATEMENT OF THE PROBLEM:

The COVID-19 pandemic has immensely affected the outdoor movement of people, one of them being physical payments. Digital payments have taken over due to the COVID restrictions which have caused the ATMs to be shut down, along with other banking services. Payment Banks have also made it very convenient for the students to pay money at any time without having to carry cash. This has led to the use of payment banks in their day to day life. Hence, there is a need to study 'Behavioural intention to adopt payment banking among college students.'

REVIEW OF LITERATURE:

SN	Author	Title	Objectives	Variables	Findings	Research Gap
1	Dr. R. Rupa, Ms. Kavya Prakash	Acquaintance and Acceptance of Payment Banks among College Students during the Pandemic	1.To understand the acceptance of PB during pandemic 2.Student's perspectives on PB	Impact of Demographic factors like age, place of stay and gender on Student's perspectives on PB	Transactions through PB are preferred because of its compatibility, less risk and its usage are increased during pandemic.	Focused only on demographic factors
2	Vaishali Sharma Dr. T.V. Raman	PAYMENT BANKS: A NEW MECHANISM TO PROMOTE FINANCIAL INCLUSION	Understanding of concept, services, role and success rate of PB	Services offered by PB	Respondents to prefer to open account with Payment bank	Primary data to understand the nature of services would have been added
3	Rahmani, Hafiz Ubaid Ur Rahman; Bardai, Barjoyai; Ramez, Abdoulrahman Aljounaidi Mhd.	Risks Associated with Payment Banks and Mobile-Based Money Platforms	To analyse the effects like, Awareness, Speed, Perceived Credibility, Perceived Financial Cost Compatibility & risk on intention to use PB	Perceived risk, usefulness, ease of use, financial cost, credibility and compatibility	Perceived usefulness, ease of use and financial cost have favourable impact on DP	NA

4	Japneet Kaur ¹ , Sawraj Kaur ¹ , Amanjot Singh Syan ² and Rishi Raj Sharma	Factors Influencing the Adoption of Payment Banks in India Using an Extended TAM	Identification of factors responsible for behavioural intention of customers to use PB services.	Perceived usefulness, Ease of use, Facilitating condition, trust and social influence.	Perceived ease of use has significant impact on behavioural intention than trust and social influence. There is a less impact of perceived usefulness.	Hedonic factors, self- efficacy, innovativeness and information quality which are having significant impact on customer behavioural intention.
5	Arpita Khare	Online banking in India: An approach to establish CRM	The research focused on assessing a change in value perception following the use of technology and to comprehend how it improves customer satisfaction.	relationship marketing with direct marketing, database, loyalty, retention and transaction marketing,	Customers are not comfortable with the online transactions, as they feel that it is not secure and safe.	NA
6	Arpita Khare, Anshuman Khare, Shveta Singh	Role of consumer personality in determining preference for online banking in India	study the role of personality in evaluating online banking in India	consumer demographic characteristics like age, education and occupation play an important role in adoption of online financial services.	Different consumers are influenced by different features of online banking, and may be intrinsically motivated to try it for different reasons.	NA

7	Shah Ankit	Factors Influencing Online Banking Customer Satisfaction and Their Importance in Improving Overall Retention Levels: An Indian Banking Perspective	investigating the major factors that influence online customers' satisfaction with the overall service quality of their banks.	ascertain the customers' perception of the overall service quality and their satisfaction with the current online banking services.	Banking Needs, followed by Core Services, Problem Resolution, Cost Saved, Convenience and Risk and Privacy Concerns were the major factors that strongly affect the overall satisfaction of online consumers.	NA
8	Sindhu Singh R. K. Srivastava	Understanding the intention to use mobile banking by existing online banking customers: an empirical study	to understand the initial acceptance of mobile banking by existing online banking users.	based on the technology acceptance model (TAM) and evaluate customers' desire to use all types of information technology	Mobile banking is an emerging service that is not yet widely adopted in India, and there is a need to determine the adoption factors that influence consumers to use it.	the extant research.

9.	Dr. Uday Singh Rajput	Customer Perception on E- Banking Service	<p>1. To study the growth and progress of electronic banking.</p> <p>2. To study the perception of the customers towards payment services.</p> <p>3. To study about impact of e-banking on customers and bankers</p> <p>4. To offer suggestions to improve the standard of e-banking Tools services</p>	Customers perception on online banking activities and its impact	Education, gender and income play an important role in usage of online banking. The research corroborated the conceptual framework stating that if skills can be upgraded there will be greater will to use online banking by consumers.	NA
10.	Dr. Ranjith P.V., Dr. Swati Kulkarni, Dr. Aparna J Varma	A Literature Study of Consumer Perception Towards Digital Payment Mode in India	<p>a. To understand concept and the different modes of digital payment.</p> <p>b. To understanding consumers perceptions with respect to online and digital payments and safety of these transactions.</p>	Perception of consumers towards cashless methods of transactions	Digital transactions are accepted in India and usage is increasing year by year. The advantages and challenges which is faced by consumers while adopting digital payment.	NA

11.	Siby K M	A Study on Consumer Perception of Digital Payment Methods in times of COVID Pandemic	Consumer perception of digital payment methods in times of COVID Pandemic and to analyse the impact of demographic characteristics like gender, age, education, profession, and income on these perceptions	Consumer perception of digital payment methods on the basis of demographic characteristics such as gender, age, education, profession, and employment.	The high digital literacy with deep mobile penetration and easy accessibility of the Internet has indeed played a significant role in the digital revolution of payment methods even in times of COVID pandemic.	NA
12.	Sharif Mohd. and Ram Pal	Moving from Cash to Cashless: A Study of Consumer Perception towards Digital Transactions	<ol style="list-style-type: none"> 1. To analyse the household awareness regarding cashless transactions. 2. To evaluate the perception of usage of different modes of cashless transactions among households. 3. To examine the opinion regarding the challenges and benefits of using cashless transactions. 	Analysis was done by mean, standard deviation, skewness and kurtosis to draw the results.	The respondents face many problems while making cashless transactions such as no security, poor network connectivity, less digital awareness, problems of illiteracy, problems in making small payments, etc	NA

13.	Prof. Sunny Gupta, Dr. Dinesh Kumar	UPI - AN INNOVATIVE STEP FOR MAKING DIGITAL PAYMENT EFFECTIVE AND CONSUMER PERCEPTION ON UNIFIED PAYMENT INTERFACE	1. The customer perception on adoption of digital mode of payment: 2. The impact of demographic factors on adoption of digital mode of payment:	multivariate analysis and frequency analysis were used to analyse the responses	That UPI may be a tool with compatible options which will create financial transactions straightforward and reasonable to the customers however it still wants confidence & awareness of the purchasers primarily type the rural background	NA
14.	Dr. K. KAMATCHI ESWARAN	CONSUMER PERCEPTION TOWARDS DIGITAL PAYMENT MODE WITH SPECIAL REFERENCE TO DIGITAL WALLETS	To find out the customer perception and impact of demographic factors on adoption of digital mode of payment	Paytm, Freecharge and Mobikwik had been aggressively pushing several digital payment applications	There was no difference perceived by the respondents on the basis of gender age, profession and annual income. It was only education level of the respondents where signification difference is perceived by the respondents.	NA

15.	DHANYA B K	CONSUMER PERCEPTION OF DIGITAL PAYMENT MODE	1 To find out the most preferred electronic payment used by customer. 2 Finding the most popular electronic payment system among various electronic payment modes. 3 Study the awareness and usage of customers using digital payment.	Descriptive style using both secondary and primary data	Show useful decision makers to implement and develop in digital payment mode and help as to know how it affect user perception and intention	NA
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OBJECTIVE:

- To understand the awareness of payment Banking among the college students in Mumbai during COVID-19.
- To analyse the factors responsible for adoption to payment Banking.
- To find out student's perceptions on payment Banking during COVID-19

HYPOTHESIS:

H01: There is no significant relation between Gender and awareness of Payment Banking.

H02: Perceived Usefulness has insignificant impact on behavioural intention to adopt payment banking.

H03: Perceived ease of use has insignificant impact on behavioural intention to adopt payment banking

H04: Perceived risk has insignificant impact on behavioural intention to adopt payment banking

H05: Perceived social norms have insignificant impact on behavioural intention to adopt payment banking

H06: Change in payment banking transactions during COVID-19 are not influenced by attitude on payment banking.

TECHNOLOGY ACCEPTANCE MODEL:

Neil Charness et al, (2016) expressed that Perceived ease of use and Perceived usefulness are the two prime factors for accepting technology. An older adult who feels that digital games would give mental stress free and easy to

learn, adopt to technology. Fathul Wahid, (2017), Women like to use internet as a result of perceived ease of use than perceived usefulness. Contrary to that, men like to adopt to internet due to its perceived usefulness rather than perceived ease of use. Study by Louisa Yee-Sum Lee (2013) proved that attitude and culture are additional factors among the travellers to use web based self-service technology.

SIGNIFICANE OF THE STUDY:

This research was undertaken to study the behavioural intention to adopt Payment Banking among College students in Mumbai during COVID-19 pandemic. The findings of this study will primarily result in benefiting payment banks and the government of India. The payment banks will be able to acknowledge the number of people using their payment banks in order to make needful changes in their strategies to reach people at an even greater extent. The government of India will come to know what scope payment banks have in the future to reach people further and how these payment banks can be advanced and promoted to meet student expectations.

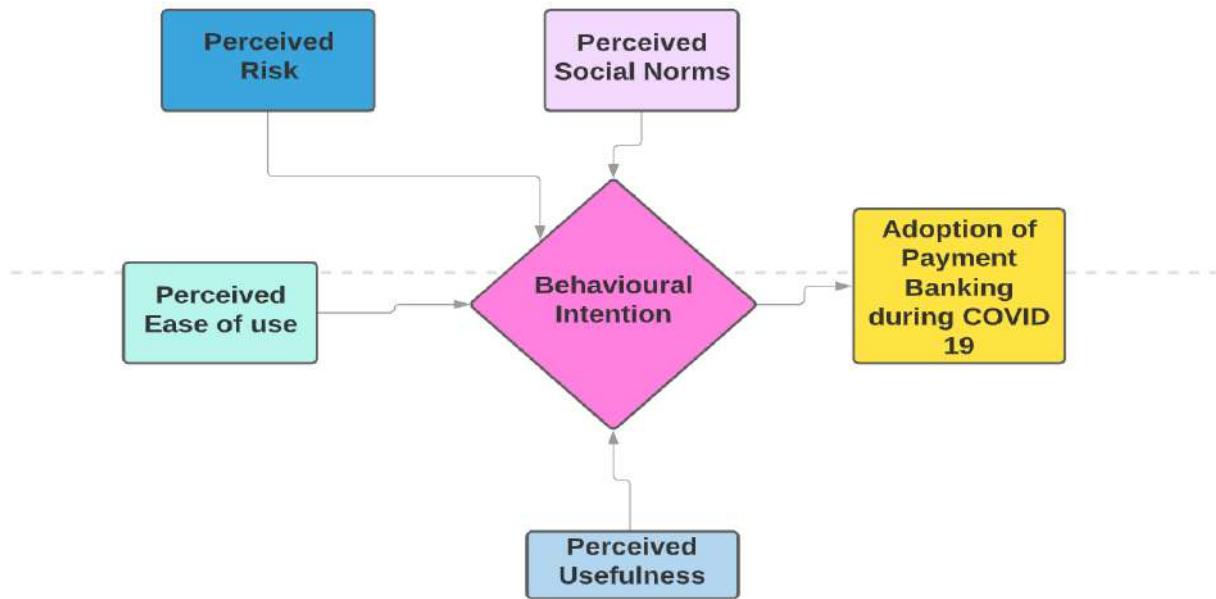
The scope of this study- this study was conducted during March 2022 among college students in Mumbai city. This study has been conducted to observe behavioural intentions of students to use payment banking during the pandemic in Mumbai city to perceive the adoption of payment banks among this age group and to know their perspective about payment banks.

METHODOLOGY:

The population of the study is limited to the college students in Mumbai city, who are also respondents. The random convenience sampling method is used to carry out research. A sample of 111 respondents was studied by collecting their demographic variables like gender and parent's income. This research used both primary and secondary data. Primary data was collected from the respondents through an online questionnaire (Google forms) which comprised of 27 questions including demographic information. Secondary data has been collected from online databases of articles, papers, websites and other sources.

CONCEPTUAL FRAMEWORK:

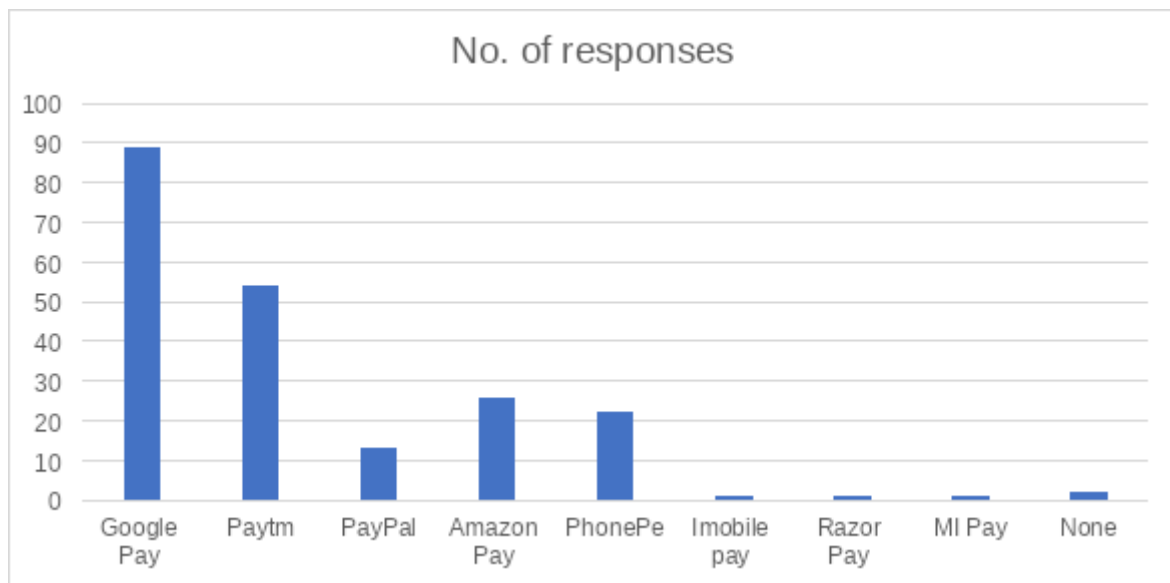
Students prefer to use payment banking when there is a positive behavioural intention to adopt to the services of payment banking. In addition to the services provided by payment banking, students who would find payment banking as easy to make payment like to use it. Students attitude towards payment banking is also influenced by risk attached to it and peer group pressure.



ANALYSIS AND INTERPRETATION:

The data collected has been analysed using percentage analysis to know how many participants gave particular answers appropriately and cross tabulation. Chi square methodology, with the help of SPS software, was also used to examine the difference between categorical variables in the same population.

Table 1 Name of the payment banks used by the respondents:



On evaluating the responses received, it can be seen that majority of the responders have chosen Google Pay as the best Payment Banking method. It is also seen that Paytm is next with maximum responders preferring to use it.

Result of Analysis: It has been proved that 80.2% of the respondents use Google Pay as their preferred Payment Bank Gateway.

Table 2 Gender and Awareness of Payment Bank:

Chi-Square Tests			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	5.569 ^a	6	.473
Likelihood Ratio	5.154	6	.524
Linear-by-Linear Association	.034	1	.854
N of Valid Cases	111		

a. 7 cells (58.3%) have expected count less than 5. The minimum expected count is .02.

Chi square independence test was administered to understand the relationship between independent variable Gender and dependent variable Awareness of payment banks. Calculated Chi square value is more than more than critical value of 0.05 at 95% level of significance, therefore, the null hypothesis is accepted.

Result of Analysis: H01 is accepted. It is proved that there is no significant relation between gender and awareness of Payment Banking.

Table 3: Perceived Usefulness and behavioural intention to adopt payment banking.

Chi-Square Tests			
	Asymptotic Significance for payment for bills and Opinion on payment banking	Asymptotic Significance for Booking of tickets and Opinion on payment banking	Asymptotic Significance for Insurance payment and Opinion on payment banking
Pearson Chi-Square	.000	.001	.137
Likelihood Ratio	.000	.003	.159
Linear-by-Linear Association	.000	.046	.670

The factors of perceived usefulness of payment banking namely, payment for bills, booking of tickets, payment of Insurance, are tested on dependent variable behavioural intention to adopt payment banking. From the above value of chi square, it is proved respondents who use payment banking for making insurance payment would not like to reflect positive behavioural intention.

Hence, it is proved that two of the factors of Perceived usefulness, usefulness in making payment of bills and booking tickets are responsible for behavioural intention to use payment banking gateways.

Result of Analysis: H02 is partially rejected. It is proved that there is significant relation between perceived usefulness Payment Banking in making payment of bills, booking tickets and behavioural intention.

Chi-Square Tests				
	Asymptotic Significance for convenience in using	Asymptotic Significance for Quick payment	Asymptotic Significance for No need to carry cash	Asymptotic Significance for easy to use payment banking
Pearson Chi-Square	.000	.000	.000	.000
Likelihood Ratio	.000	.000	.000	.000
Linear-by-Linear Association	.000	.000	.001	.001
N of Valid Cases	111			
a. 12 cells (60.0%) have expected count less than 5. The minimum expected count is .04.				

Table 4: Perceived ease of use and behavioural intention to adopt payment banking.

The factors of easy to use namely, convenience, quick payment, no need to carry cash, easy to use have Chi square value less than .05.

Result of Analysis: H03 is rejected. It is proved that there is strong significant relation between perceived ease of use and behavioural intention to adopt to Payment Banking.

Table 5: Perceived risk and behavioural intention to adopt payment banking

Chi-Square Tests				
	Asymptotic Significance- Bank details are kept safe to use (2-sided)	Debit card details as a default payment is risky	Misused by third party	Safety in making payment

Pearson Chi-Square	.000	.015	.028	.000
Likelihood Ratio	.000	.016	.031	.000
Linear-by-Linear Association	.000	.006	.177	.000
N of Valid Cases	111			
a. 8 cells (50.0%) have expected count less than 5. The minimum expected count is .14.				

The factors of risk are saving bank details, debit card details, information misused by third party and safety in making payment. It can be seen that the calculated values are less than 0.05. Hence, the null hypothesis is rejected.

Result of Analysis: H04 is rejected. It is proved that there is a strong significance relation between perceived risk and behavioural intention to adopt Payment Banking.

Table 6: Perceived Social norms and behavioural intention to adopt payment banking.

	Asymptotic Significance- Use payment banking as parents use it (2-sided)	Asymptotic Significance- Use payment banking as friends use it (2-sided)
Pearson Chi-Square	.111	.000
Likelihood Ratio	.150	.000
Linear-by-Linear Association	.234	.001
N of Valid Cases	111	

- One of the factors, i.e. whether the students use payment banking because their parents use it. On studying the responses of the students, the calculated value is greater than 0.05, hence it is accepted.
- The other factor, i.e. whether the students use payment banking because of their friends, it can be seen that the calculated value is less than 0.05. Hence it is rejected.

Result of Analysis: H05 is partially accepted. It has been proved that there is a significant relation between social norms and behavioural intention to adopt payment banking with relation to the influence of friends.

Table7: Change in payment banking transactions during COVID-19

Chi-Square Tests		
	Asymptotic Significance- Frequency is increased (2-sided)	Amount of transactions increased
Pearson Chi-Square	.000	.000
Likelihood Ratio	.000	.000
Linear-by-Linear Association	.000	.000
N of Valid Cases	111	
a. 12 cells (60.0%) have expected count less than 5. The minimum expected count is .02.		

The research tries to find the respondents adoption to payment banking during COVID-19.

Respondent's attitude towards payment banking has been improved as the chi square value for 'increase in frequency of using payment banking' and 'increase in amount of payment banking transactions'. The result of the test revealed there is a relation between attitude towards payment banking and increase in frequency and amount of transactions during COVID-19 as Chi square value is 0.000 which is less than 0.05 at 95% level of significance.

RESULT OF ANALYSIS:

H06 is rejected. Therefore, it is proved that Change in payment banking transactions during COVID-19 are influenced by attitude on payment banking.

FINDINGS:

1. It can be seen that 80.2% of the respondents prefer Google Pay as the best Payment banking gateway.
2. 89.1% of the respondents are aware of payment banking.

3. It can be seen that 36% respondents transfer more than Rs 4000 per month.
4. 44.1% of the respondents are aware that payment banks accept demand deposits up to Rs. 1 lakh.
5. 61.2% of the respondents are unaware that payment banks do not advance loans.
6. 48.6% of the respondents are aware that payment banks issue debit cards.
7. 79.2% of the respondents agree that they would prefer to continue using payment banks.
8. 80.1% of the respondents also suggest their friends to use payment banks.
9. 83.7% of the respondents are of the opinion that their experience with payment banks was good.
10. 89.1% of the respondents prefer payment banking because it can be done quickly.
11. 89.1% of the respondents prefer payment banking because it is easy to use.
12. It has been proved that gender has no relation between gender and awareness of payment Banking. H01 is accepted.
13. It is proved that there is significant relation between perceived usefulness Payment Banking in making payment of bills, booking tickets and behavioural intention. H02 is partially rejected.
14. It is proved that there is strong significant relation between perceived ease of use and behavioural intention to adopt to Payment Banking. H03 is rejected.
15. It is proved that there is a strong significance relation between perceived risk and behavioural intention to adopt Payment Banking. H04 is rejected.
16. It has been proved that there is a significant relation between social norms and behavioural intention to adopt payment banking with relation to the influence of friends. H05 is partially accepted.
17. It is proved that Change in payment banking transactions during COVID-19 are influenced by attitude on payment banking. H06 is rejected.

CONCLUSION:

Payment banks were introduced with the primary purpose of increasing the impact of financial inclusion. Payment banks help execute the government's direct benefits and transfer schemes, where subsidies on health care, education and gas are paid directly to beneficiaries' accounts. Increased competition between traditional banks and payment banks improves the quality of banking operations as services are at reduced costs and ultimately leads to financial inclusion. Though there are a lot of obstructions that need to be tackled before the true benefits of payment banks. Firstly, there are millions of Indians who don't have access to banking facilities. Furthermore, they cannot avail of state advantages, loans, insurance and even interest on savings. Therefore, Payment Banks guarantees to be a game-changer as the mobile platforms produce basic banking transactions through mobile phones. Although it is just the start of payment banks, it guarantees to be an identical game-changer in India, especially among college students.

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A STUDY OF RATIO ANALYSIS OF 'HAVELLS INDIA LTD'.

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ABSTRACT:

This study has been conducted on Havells India Ltd. For which we gathered the data of 3 financial years (2019, 2020, 2021). The accounting information has been collected from Stock edge website. This paper is completely based on secondary data. In this study the researcher has attempted to analyse the ratios of Balance sheet and Income statement for 3 Financial years and commented on each of the ratios.

Keywords: Ratios, Current assets, Quick assets.

Ratio Analysis of 'Havells India Ltd'

1. INTRODUCTION:

Given research is based on Havells India Ltd. Company is virtually debt free. The company is good in financial management but they need to improve and make a proper use of resources. Net sales turnover is about 10247.92(in crores). In this we can see how the company has growing earnings, and revenue, over time.

2. OBJECTIVES:

- To develop an understanding on different ratios of the company
- To compare three years financial performance of the company
- To identify in which of the three years the company performed better.

3. LIMITATIONS:

- This study is limited to Havells India Ltd.
- This study focuses only on three years financial data.
- This study is based on secondary source of data.

4. REVIEW OF LITERATURE:

G.E. Halkos (2004), Efficiency measurement of the Greek commercial banks with the use of financial ratios: a data envelopment analysis approach. This paper studied about the application of the non-parametric analytic technique in respect of the DEA (Data Envelopment Analysis) to measure the performance of Greek banking sector.

Keith A Houghton, David R Woodliff (1987), Monetary Proportions: The Expectation of corporate victory and disappointment. This paper explored around the budgetary proportions to foresee the trade disappointment. This has done from both the Human Information Handling (HIH) and from the forecast from natural predictability.

Katchova & Enlow (2013) inspected how publicly-traded agribusinesses perform financially compared to all firms over the period from 1961 to 2011. The think about was conducted utilizing financial ratios and adjust sheet/income explanation things, to compare agribusiness firms to all firms in the market.

5. METHODOLOGY:

This information is based on secondary data. In this we have analysed financial ratios of Havells

India Ltd. we have calculated 5 financial ratios of the company. Net Profit Ratio, Current Ratio, Gross Profit Ratio, Operating Profit Ratio and Expense Ratio. In this we have noted financial performance and the company is able to pay its debt or not.

Ratio Analysis of 'Havells India Ltd'

6. DATA ANALYSIS:

1. CURRENT RATIO

Particulars	Year 2019		Year 2020		Year 2021	
	Amt	Amt	Amt	Amt	Amt	Amt
Current Assets:						
Cash&Short term investments	1,311.37		1,132.53		1,959.09	
Total Receivables	406.58		241.66		563.73	
Total Inventory	1,918.97		1,871.88		2,619.89	
Other Current Assets	207.19	3,844.11	234.57	3,480.64	177.75	5,320.46
Current Liabilities:						
Accounts Payable	1,600.23		1,453.23		1,628.39	

Total Deposits	-----		-----		-----	
Other Current Liabilities	939.35	2,539.58	873.67	2,326.90	1,148.99	2,777.38
Current Ratio	$\frac{3,844.11 \times 100}{2,539.58} = 1.51$		$\frac{3,480.64 \times 100}{2,326.90} = 1.49$		$\frac{5,320.46 \times 100}{2,777.38} = 1.91$	

FORMULA: Current Ratio = $\frac{\text{Current Assets}}{\text{Current Liabilities}}$

Current Liabilities

INTERPRETATION: It indicates lower current ratio for all three years, as the company does not have enough to pay for its short term obligations.

Ratio Analysis of 'Havells India Ltd'

2. GROSS PROFIT RATIO.

Particulars	Year 2019	Year 2020	Year 2021
Gross Profit	1,295	1,120	1,680
Net Sales	10,008	9,429	10,428
Gross Profit Ratio	$\frac{1,295 \times 100}{10,008} = 12.86$	$\frac{1,120 \times 100}{9,429} = 11.87$	$\frac{1,680 \times 100}{10,428} = 16.11$

FORMULA: Gross Profit = $\frac{\text{Gross Profit}}{\text{Net Sales}} \times 100$

Net Sales

INTERPRETATION: Gross Profit ratio is lower for all three years, lower is the efficiency of business.

3. OPERATING PROFIT RATIO.

Particulars	Year 2019	Year 2020	Year 2021
Operating Profit	1,351	1,171	1,770
Net Sales	10,068	9,429	10,428
Operating Profit Ratio	$\frac{1,351 \times 100}{10,068}$ = 13.42	$\frac{1,171 \times 100}{9,429}$ = 12.41	$\frac{1,770 \times 100}{10,428}$ = 16.97

FORMULA: Operating Profit Ratio = $\frac{\text{Operating Profit}}{\text{Net Sales}} \times 100$

Net Sales

INTERPRETATION: Operating Profit Ratio is lower in the year 2019 & 2020, and its higher in 2021. Higher profit higher efficiency of business.

4. EXPENSE RATIO.

Ratio Analysis of 'Havells India Ltd'

Particulars	Year 2019	Year 2020	Year 2021
Expense	9,090	8,198	9,376
Net Sales	10,068	9,429	10,428
Expense Ratio	$\frac{9,090 \times 100}{10,068}$ = 90.28	$\frac{8,198 \times 100}{9,429}$ = 86.94	$\frac{9,376 \times 100}{10,428}$ = 85.79

FORMULA: Expense Ratio = $\frac{\text{Expense}}{\text{Net Sales}} \times 100$

Net Sales

INTERPRETATION: The company has higher expense ratios, for all three years which indicates it is less favourable.

NET PROFIT.

Particulars	Year 2019	Year 2020	Year 2021
Net Profit	787	733	1,040
Net Sales	10,068	9,429	10,428
Net Profit Ratio	$\frac{787 \times 100}{10,068}$ = 7.81	$\frac{733 \times 100}{9,429}$ = 0.01	$\frac{1,040 \times 100}{10,428}$ = 9.97

FORMULA: Net Profit Ratio = $\frac{\text{Net Profit}}{\text{Net Sales}} \times 100$

Net Sales

INTERPRETATION: Net Profit Ratio is lower for all three years. Lower ratio indicates lower efficiency of business & no proper utilization of available resources.

7. CONCLUSION:

As we can see the last 3 years of data of Havells India Ltd. Company is going in profit since it is producing good products. The company is performing good and its financial statement is good. As per analysis the company is less dependent on outside funds and they are struggling little to pay off its short term debt. Overall the company's performance is not so great as

Ratio Analysis of 'Havells India Ltd'

their expense ratio is high and their operating profit ratio is also not that high but last year the

operating ratio is little better. So we can conclude by saying that the company is in a average position.

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A STUDY ON RATIO ANALYSIS OF THE GODREJ INDUSTRIES LIMITED

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ABSTRACT:

This study has been conducted on Godrej Industries Ltd. For which we gathered the data of 3 financial years (2019,2020,2021). The accounting information has been collected from Stock edge website. This paper is completely based on secondary data. In this study the researcher has attempted to analyses the ratios of Balance sheet and Income statement for 3 Financial years and commented on each of the ratios.

KEYWORDS: Ratios, Current assets, Quick assets

INTRODUCTION:

Godrej Industries Limited is a holding company of the Godrej Group. The company has its headquarters in Mumbai, India. Godrej Industries Ltd was incorporated in the year 1988 as Gujarat- Godrej Innovative Chemical Ltd We are getting information company of Godrej Industries Limited from Stock Edged Website, to collecting the data of 3 years which are (2019,2020,2021) Also we are referred from other references We are done calculation of 10 types of Ratios but we explain 5 Types of ratios which are Current Ratio, Acid Test Ratio, Proprietor Ratio, Debt Equit Ratio, Capital Gearing Ratio.

OBJECTIVES:

To make comparison between the ratios during different periods.

To evaluate various facts of financial performance of the Godrej industries ltd company.

To understand efficiency level of the company.

LIMITATIONS:

Very short time span was given.

Not able to access various resources.

Only able to relay on resources which available on internet.

REVIEW OF LITERATURE:

In [3], the creators analyzed the productivity of ten chosen commercial banks in India. The analyst recommended that the position of working fetched can be make strides with the presentation of high level innovation as well as by making strides the per representative productivity.

In [4], the creators shown that all the chosen planned commercial banks were found to be distinctive in terms of add up to assets, share capital, capitalization proportion and productivity components. Much contrast within the productivity execution of banks was found due to human assets productivity as measured in terms of business per employee.

In [5], the authors showed a lessening within the operational efficiency of the chosen PACS amid the post-reform period compared to the pre-reform period. The chosen PACS appeared a decline in their current liquidity proportion, rate of return on asset.

METHODOLOGY:

The secondary data I used for this project.

Stockedge.com from this website I collected all the necessary information related to my topic.

Ratio analysis of Godrej industries limited

Financial performance of the company has been analyses with the help of ratio analysis. · Five ratios have been studied.

DATA ANALYSIS:**1)Current ratio:**

Balance sheet for the year ended 2019,2020 and 2021

Particular	Year 2019		Year 2020		Year 2021	
	Amt (Rs) (cr)	Amt (Rs) (cr)	Amt (Rs) (cr)	Amt (Rs) (cr)	Amt (Rs) (cr)	Amt (Rs) (cr)
Current assets						
a) Quick assets						
St investments	1052		2062		5039	

Inventories	3410		3188		6187	
Sundry debtors	1160		1552		1511	
Cash and bank	945		978		852	
Others	2163		2794		4028	
Total assets	17622	26352	19950	30524	28604	46221
b) Non quick assets						
Lt investments	4421		4533		4913	
Lt loans and advances	420		426		329	
Other Lt assets	6	4847	12	4971	763	6005
Total current assets		31199		35495		52226
Current liabilities						
a) Quick liabilities						
St provision	96		141		131	
St borrowing	5626		6037		6648	
St trade	1878		2180		3321	
Other St liabilities	2587	10187	1798	10156	1945	12045
b) Non quick liabilities						
Lt borrowing	1196		613		3111	
Other provisions		1196		613		3111
Total current liabilities		11383		10769		15156

Formula:

Current ratio= current assets

Current liabilities

$$2019 = 31199 / 11383 = 2.74$$

$$2020 = 35495 / 10769 = 3.29$$

Ratio analysis of Godrej industries limited

$$2021 = 52226 / 15156 = 3.44$$

INTERPRETATION: Current ratio of the all three year i.e 2019,2020 and 2021 indicates that current ratio is high it shows the company will able to pay its debt.

1)Proprietary ratio:

Balance sheet for the year ended 2019,2020,2021	2019	2020	2021
Shareholders fund	24206	29333	42012
Total assets	17622	19950	28604

Formula:

$$\text{Proprietary ratio} = \frac{\text{shareholders fund}}{\text{Total assets}} \times 100.$$

Total assets

$$2019 = \frac{24206 \times 100}{17622} = 137.36\%$$

$$2020 = \frac{29333 \times 100}{19950} = 147.03\%$$

$$2021 = \frac{42012 \times 100}{28604} = 146.87\%$$

INTERPRETATION:

All three years i.e 2019,2020and 2021 of proprietary ratio says that company Is less dependent on outside fund and company is quite solvent.

3)Debt equity ratio:

<u>Balance sheet for the year ended 2019, 2020</u>	2019	<u>2020</u>	<u>2021</u>

and 2021			
Borrowed funds	-349	-206	39
Shareholders fund	24206	29333	42012

Formula:

Debt equity ratio = Borrowed funds / Shareholders funds

$$2019 = -349 / 24206 = -0.014$$

$$2020 = -206 / 29333 = -0.0007$$

$$2021 = 39 / 42012 = 0.0009$$

INTERPRETATION:

Ratio analysis of Godrej industries limited

In debt equity ratio of all three years i.e 2019,2020 and 2021, says creditors enjoy lower level of safety it means that creditors are relatively less and the financial structure of the business is sound.

4. Acid test ratio:

Balance sheet as on 2019, 2020, 2021

Particulars	2019	2020	2021
Quick assets			
Short term Investment	1052	2062	5039
Sundry Debtors	3410	3188	6188
Cash & bank	1160	1552	1511
Others	2163	2794	4028
Total Quick assets	7785	9596	16766
Quick Liabilities			

Short term Provision	96	141	131
Short term Borrowing	5626	6037	6648
Short term Trade pay	1878	2180	3321
Other short term Trade Pay	2587	1798	1945
Total quick Liabilities	10187	10156	12045

Formula: =Quick assets

Quick Liabilities

$$2019 = 7785 / 10187 = 0.76$$

$$2020 = 9596 / 10156 = 0.94$$

$$2021 = 16766 / 12045 = 1.39$$

Interpretation: -

The interpretation for Acid Test Ratio of all 3 three years i.e 2019,2020 and 2021 is same because its shown the lower ratio of weaker financial position.

5.Capital gearing Ratio:

Balance as on 2019,2020,2021	2019	2020	201
Fixed income funds	-341	-206	39
Non Fixed income fund	21925	25695	36115

Ratio analysis of Godrej industries limited

Formula: - Fixed income funds

Non- Fixed income fund.

$$2019 = -341 / 21925 = -0.015$$

$$2020 = -206 / 25695 = -0.008$$

$$2021 = 39 / 36115 = 0.001$$

Interpretation: - The interpretation for capital Gearing Ratio of all 3 three years i.e 2019,2020 and 2020 is same because it shown the higher ratio.

FINDINGS:

- 1.The company will able to pay off its debt.
2. The company is less dependent on an outside fund for the working.
3. The efficiency of the business is high and it also have the better utilization of total resources.
4. Company's creditors enjoy lower level of safety.

CONCLUSION:

Company's ratio are going up and down they are different for all three ratio. So company is in higher and lower in both situations there is no fixed ratio. As per analysis the company will be able to pay its debt in some year and may not able to pay its debt in some year.

Company is depending on more outside fund and creditors of the company enjoy lower level of safety.

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A STUDY ONN RATIO ANALYSIS OF OBEROI REALITY LIMITED

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ABSTRACT:

This study has been conducted on Oberoi Realty Ltd. For which we gathered the data of 3 financial years (2019, 2020, 2021). The accounting information has been collected from Stockedge website. This paper is completely based on secondary data. In this study the researcher has attempted to analyze the ratio of Balance Sheet & Income Statement for 3 Financial years and commented on each of the ratios.

KEYWORDS:

Accounting ratio, Annual reports, Oberoi realty ltd Financial Performance.

INTRODUCTION:

Oberoi Realty is an Indian multinational publicly listed real estate development company headquartered in Mumbai, Maharashtra. Oberoi Realty was incorporated as Kingston Properties Private Limited in 1998. In 2010 the company got listed on the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE). A listed entity on premium developments in the residential, office space, retail, hospitality and social infrastructure verticals; it is an established brand with an impeccable track record. OCPL is involved in the business of real estate development & related activities and is a 100% subsidiary

Ratio Analysis on Oberoi Realty Limited

To study the financial performance of oberoi reality limited, 3years financial information i.e.BalancesheetandIncomestatementhasbeenextractedfromstockedgewebsiteinwhichthecompanyhasofficiallypublishedtheinformation's. Withthehelpoftheseinformationthecompany'sefficiency levelanditssolvencylevelhasbeencalculated.Ratioanalysishasbeenusedasatoolto calculatethefinancial performance.

OBJECTIVES:

- To do the comparison between the ratios during different period.
- To under stand the efficiency level of the company.
- To know the financial position of the company.
- To evaluate the various fact of performance of the company.
- To offer suggestions based on findings of the study.

REVIEW OF LITERATURE:

REVIEW1

Robert O.Edmister (2009) An Experimental Test of Moneyrelated Proportion examination for Little Trade Disappointment. This study developed and experimentally tried a number of strategies for analyzing budgetary proportions to anticipate the disappointment of small business.

REVIEW2

Edward I. Altman (1968), Budgetary proportions, discriminant investigation and the forecast of corporate liquidation. This study used to analyze the execution of the trade venture by utilizing proportion investigation as the explanatory method.

REVIEW3

M

Kumbirai, R Webb (2010), A monetary proportion investigation of commercial bank execution in South Africa. This paper investigated the South Africa's execution of commercial managing an account segment period for 2005-2009. this monetary

METHODOLOGY:

In this present study, an attempt has been made to evaluate the financial performance of Oberoi Realty Limited. The study is based on secondary data. Details are collected from websites, books, journals. The time period of study is 3 years from the year 2019 till the year 2021. Financial performance of the company has been analysed with the help of Ratio analysis. Five ratios have been studied.

LIMITATIONS:

- Due to the difference in accounting period, evaluation of the company may not give the accurate image.*
- The approach may differ on calculation of certain items analysis and interpretation of the ratios.*
- Time period of study is limited to 3 years only.*
- The ratio analysis deals with quantitative aspects. It totally overlooks the qualitative aspects.*

DATA ANALYSIS:**1. CURRENT RATIO**

<i>PARTICULARS</i>	<i>2019</i>	<i>2020</i>	<i>2021</i>
<i>QUICK ASSETS</i>	<i>6867</i>	<i>7369</i>	<i>7353</i>
<i>QUICK LIABILITIES</i>	<i>1483</i>	<i>1040</i>	<i>1116</i>
<i>CURRENT RATIOS</i>	<i>4.63:1</i>	<i>7.08:1</i>	<i>6.58:1</i>

Ratio Analysis on Oberoi Realty Limited

FORMULA:- $CURRENT\ RATIO = \frac{CURRENT\ ASSETS}{CURRENT\ LIABILITIES}$

INTERPRETATION-

In the above table you can see that the above three years i.e. 2019, 2020, 2021. It indicates that the current ratio is high, it shows the company will be able to pay its debt maturing within a year. As we can see in this study, the company is in a good position.

2. Quick Ratio

<i>PARTICULARS</i>	<i>2019</i>	<i>2020</i>	<i>2021</i>
<i>QUICK ASSETS</i>	<i>2277</i>	<i>1944</i>	<i>2557</i>
<i>QUICK LIABILITIES</i>		<i>1483 1040</i>	<i>1116</i>
<i>QUICK RATIO</i>	<i>1.53:1</i>	<i>1.86:1</i>	<i>2.29:1</i>

FORMULA: QUICK RATIO = QUICK ASSETS / QUICK LIABILITIES

INTERPRETATION:

In the Quick Ratio table you can see that after calculating the 3 years i.e. 2019, 2020, 2021. The financial position of the company is very much stronger. Also you can see here the ratio is higher compared to the standard ratio.

3. PROPRIETARY RATIO

<i>PARTICULARS</i>	<i>2019</i>	<i>2020</i>	<i>2021</i>

<i>NETWORTH</i>	<i>364</i>	<i>364</i>	<i>364</i>
<i>TotalAssets</i>	<i>6867</i>	<i>7369</i>	<i>7353</i>
<i>ProprietaryRatio</i>	<i>5.30:1</i>	<i>4.93:1</i>	<i>4.9:1</i>

*FORMULA:-ProprietaryRatio=Networth/TotalAsset*100*

□ *INTERPRETATION-*

Inthelast3yearstheProprietaryRatioishighersoindicatethatthecompanyislessdependentonanouts idefundfortheworking&itisaquietsolvent.

4.GROSSPROFITMARGINRATIO

<i>PARTICULAR</i>	<i>2019</i>	<i>2020</i>	<i>2021</i>
<i>GROSSPROFIT</i>	<i>289</i>	<i>1279</i>	<i>1001</i>
<i>NETSALES</i>	<i>1265</i>	<i>2238</i>	<i>2053</i>
<i>GROSS MARGINRATIO</i>	<i>PROFIT22.84%</i>	<i>57.14%</i>	<i>48.75%</i>

*FORMULA:-GROSSPROFITMARGINRATIO=GROSSPROFIT/NETSALES*100* □

INTERPRETATION:Intheyearof2019&2020wecanseetheGrossProfit

Margin Ratio is low

so it indicates that the efficiency of production & trading operation is also very low. In the last year we can see that the efficiency of production & trading operation is also very high.

5. NET PROFIT RATIO

<i>PARTICULARS</i>		<i>2019 2020</i>	<i>2021</i>
<i>NET AFTER TAX</i>	<i>PROFIT 430</i>	<i>654</i>	<i>716</i>
<i>NET SALES</i>	<i>1265</i>	<i>2238</i>	<i>2053</i>
<i>NET RATIO</i>	<i>PROFIT 33.9%</i>	<i>29.22%</i>	<i>34.87%</i>

*FORMULA: - NET PROFIT RATIO = NET PROFIT AFTER TAX / NET SALES * 100*

INTERPRETATION:

In 2019 & 2021 here we can see that the data of Net Profit ratio is higher than the standard ratios so the efficiency of the business is high and it also has the better utilization of total resources. In 2020 the ratio is average and that indicates the efficiency of the business is average & it also has the good utilization of total resources.

FINDINGS:

1. The company will be able to pay off its short-term debt.
2. The ratio is higher compared to the standard ratio.
3. The company is less dependent on an outside fund for the working.

4. The efficiency of production & trading operation is also very low.

5. The efficiency of the business is high and it also has the better utilization of total resources

SUGGESTIONS:

The directors of the company have to stable their strategy or work hard for the more better performance growth of the company.

CONCLUSIONS:

After observing & studying the data of last 3 years of The Oberoi Company Ltd. We can see that the ratio & Interpretation of the company is slightly different from each other. After seeing the limitations we can say that the company performance is going very good. The overall performance of the company in financial is very much stronger. If the strategy of the company will remain same or work more hard than the company will perform very well in the upcoming years it would be expected.

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A STUDY ON RATIO ANALYSIS ON BAJAJ FINANCE LTD

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ABSTRACT:

This study has been conducted on Bajaj Finance Ltd. For which we gathered the data of 3 financial years (2019,2020,2021). The accounting information has been collected from Stock edge website. This paper is completely based on secondary data. In this study the researcher has attempted to analyses the ratios of Balance sheet and Income statement for 3 Financial years and commented on each of the ratios.

INTRODUCTION:

Bajaj finance Limited is founded on 8 May 1973. We are getting information company of Reliance Industries Limited from Stock Edged Website, to collecting the data of 3 years which are (2019,2020,2021) Also we are referred from other references We are done calculation of 10 types of Ratios but we explain 5 Types of ratios which are Current Ratio, Acid Test Ratio, Proprietor Ratio, Debt Equity Ratio, Capital Gearing Ratio.

OBJECTIVES:

- To understand different ratios for different years of the company.
- To compare financial performance of the company for the last three years.
- To identify in which of the three years the company performed better.

LIMITATIONS:

- We have collected all information from stock edge
- Got Information from the Internet
- Used the app of Stock Edge.

REVIEW OF LITERATURE:

In [3], the creator's partitions budgetary proportions into five basic categories, which are: liquidity, movement, obligation, productivity, and market proportions. The proportions give

important knowledge into the wellbeing of a firm, the budgetary condition and profitability.

In [4], the creators explored the South Africa's performance of commercial keeping money division period for 2005 - 2009. The result shown that the disintegration in benefit due to a few reasons like expanding bank's working costs, reduction in salary etc.

The creators highlighting regions of great and terrible execution, ratios can help administration to distinguish where their qualities and weaknesses are and where encourage exertion ought to be coordinated.

METHODOLOGY:

- In this I used the fully Secondary Data
- The Website which are used for calculating the 3 years' data is

Ratio analysis of Bajaj finance limited

DATA ANALYSIS:

1) CURRENT RATIO:

Particulars	2019	2020	2021
Current assets :			
St investment	7087	14455	13801
Inventories	-	-	-
Sundry debtors	8095	953	1107
Cash and banks	349	1383	2176
Others	390	642	537
Total assets	123563	163541	170581
Non quick assets			
Lt investment	1512	3089	4596
Lt loans and advance	189	295	276
Others Lt assets	20	28	34

St loans	112513	141376	146687
Total current assets	246432	325762	339795
Current liabilities			
Quick liabilities			
St provisions	23	18	19
St borrowings	12918	6948	9534
St treds	812	960	1108
Other st liabilities	1966	1057	1414
Non quick liabilities			
Lt borrowings	88670	122859	122110
Other provisions	74	100	122
Lt provisions	73	122	298
Direct tax	-669	-850	-946
Total current liabilities	103867	131214	133659

Formula:**Current ratio- current assets****Current liabilities**

$$2019- \frac{246432}{10387} = 2.37$$

$$2020- \frac{325762}{131214} = 2.48$$

$$2021- \frac{339759}{133659} = 2.54$$

Interpretation-Current ratio of all three years indicates company will able to pay its short term debts.

2)PROPRIETARY RATIO:

Ratio analysis of Bajaj finance limited

Balance sheet for the year ended 2019,2020,2021	2019	2020	2021
Shareholder's fund	19697	32327	36918
Total assets	123563	163541	170581

Formula

Proprietary ratio = shareholder's funds *100

Total assets

$$2019 = \frac{19697}{123563} * 100 = 15.9\%$$

$$2020 = \frac{32327}{163541} * 100 = 19.7\%$$

$$2021 = \frac{36918}{170581} * 100 = 21.6\%$$

Interpretation

All three years proprietary ratio says that company is not depended on outside fund. **3)QUICK RATIO:**

Balance sheet for the year ended 2019,2020and 2021	2019	2020	2021
Quick liabilities	15719	8983	12075
Quick assets	132198	180974	188202

Formula

Quick ratio = Quick liability

Quick assets

$$2019 = \frac{15719}{132198} = 0.11$$

$$2020 = \frac{8983}{180947} = 0.049$$

$$2021 = \frac{12075}{188202} = 0.064$$

Interpretation

Quick ratio for all three years is lower hence it indicates weaker is the financial position.

4) OPERATING RATIO:

Ratio analysis of Bajaj finance limited

Balance sheet for the year ended 2019, 2020 and 2021	2019	2020	2021
Operating expenses	8662	12156	12017
Net sales	18487	26374	26690

Formula

Operating ratio= $\frac{\text{operating expenses}}{\text{Net sales}} * 100$

Net sales

2019= $\frac{8662}{18487} * 100 = 46.8\%$

2020= $\frac{12156}{26374} * 100 = 46.9\%$

2021= $\frac{12017}{26690} * 100 = 45.2\%$

Interpretation

Operating ratio of all three years i.e 2019,2020 and 2021 is lower means higher favorable to the company.

5) NET PROFIT RATIO:

Balance sheet for the year ended 2019, 2020 and 2021	2019	2020	2021
Net profit after tax	3994	5264	4422
Net sales	18487	26374	26690

Formula

Net profit ratio= $\frac{\text{Net profit after tax}}{\text{Net sales}} \times 100$

Net sales

2019= $\frac{3994}{18487} \times 100 = 21.6\%$

2020= $\frac{5264}{26374} \times 100 = 19.9\%$

2021= $\frac{4422}{26690} \times 100 = 16.5\%$

Interpretation

Net profit ratio of all three years i.e 2019,2020, and 2021 indicates higher ratio which means higher efficiency of business and better utilization of resources.

FINDINGS:

1.The company will able to pay its short term debts.

Ratio analysis of Bajaj finance limited

2.The company is not dependent on outside funds.

3.The company's net profit ratio indicated higher ratio that means higher efficiency of business. 4. The companies operating ratio is lower which means higher favorable to the company. 5. The quick ratio for three years is lower, it indicates weaker financial position.

CONCLUSION:

The study was conducted in Bajaj Finance Limited, to find out the financial performance of the bank using ratio analysis. After analyzing the company's three years' financial reports it is concluded that the overall financial performance of the company is good. Based on the findings it is clear that the company is not dependent on outside funds. This paper was very useful to analyze the financial performance of the company using its financial statements. The result indicates that the financial performance has been improving every year but the company has to put some more effort to make it more effective.

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A STUDY ON RATIO ANALYSIS OF BANK OF MAHARASHTRA

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ABSTRACT:

The Maharashtra chamber of commerce (MCC) was established in Poona in 1934. The accounting information has been collected from stock edge website. In that paper we analyse the ratios of balance sheet and Income statement of 3 Financial years and commented on each of the ratios.

KEYWORD: Capital Adequacy Ratio, Current assets, current liabilities, quick assets

INTRODUCTION:

Bank of Maharashtra Is a nationalized bank under the ownership of ministry of finance, government of India. We are getting information company of Bank of Maharashtra from stock Edged Website, to collecting the data of 3years which are (2019,2020,2021). We are done calculation of 5 types of ratios that are current ratio, Acid test Ratio, Proprietor Ratio, Debt Equity Ratio, Capital Gearing Ratio.

PAPER HEADING-1:

OBJECTIVES:

To identify in which of the three years the company performance well 2

To Understand different ratios for different years of the company

LIMITATIONS:

1. This study is used only secondary data.

2. This study is limited to Bank of Maharashtra.

REVIEW OF LITERATURE:

Edward I. Altman (1968), Budgetary proportions, discriminant investigation and the forecast of corporate liquidation. This study used to analyze the execution of the trade venture by utilizing proportion investigation as the explanatory method.

Katchova & Enlow (2013) inspected how publicly-traded agribusinesses perform financially compared to all firms over the period from 1961 to 2011. The think about was conducted utilizing financial ratios and adjust sheet/income explanation things, to compare agribusiness firms to all firms in the market.

Slavickiene & Savickiene (2014) dissected the cultivate financial reasonability appraisal methodology, using 23 monetary proportions and 10 non-financial markers, counting 5 repeating markers, namely Return on Value, cost to Pay Proportion, Obligation Proportion, Net Return, and Yield to Financial Size Unit Proportion. The analysts evaluated the strategy by applying to Lithuanian ranches and then comparing the comes about with ranches of European Union nations. The think about found that there was no best strategy for the appraisal of financial reasonability of rural possessions.

METHODOLOGY:

We study about the Bank of Maharashtra. We collected the information from website, journals, books. Three years' financial information has been collected, analyzed and interpreted.

Shorten Paper Title

Data Analysis:

1. Current Ratio:

Balance sheet as on 2019 , 2020, 2021			
Particulars	2019	2020	2021
Current Assets			
Short term Investment	22.63	33.13	41.53
Sundry Debtors	14.40	19.63	19.68
Cash & Bank	1.54	24.48	1.17
Other	22.31	2.67	21.42
TOTAL CURRENT ASSET	63.4	79.91	8.38
Current Liabilities			
Short term provision	8.71	6.03	4.22
Short term borrowing	Nil	Nil	Nil
Short term Trade Pay	15.07	22.59	15.30

Other short term Liabilities	5.21	5.78	3.67
Long term Borrowing	Nil	Nil	Nil
Other long term Liabilities	Nil	Nil	Nil
Long term Provision	Nil	Nil	Nil
Deferred Tax	17.40	14.19	16.68
TOTAL CURRENT LIABILITIES	46.39	48.59	39.87

CurrentRatio = CurrentAssets

=

Formula: =Current Liabilities

2019 = 63.4/46.39

=1.36)1

2020 = 447348/701668

=0.63/1

2021 = 571182/520633

=1.09/1

INTERPRETATION:

The interpretation for current ratio of all 2019,2020 years it has higher ratio so will not be able to meet, but in 2021 it indicates the lower ratio so will not be able to meet short term debt.

Shorten Paper Title

2. Acid test Ratio:

Balance sheet as on 2019 , 2020, 2021			
Particulars	2019	2020	2021
QUICK ASSETS			
Short term Investment	22.63	33.13	41.53
Sundry Debtors	14.40	19.63	19.68
Cash & Bank	1.54	24.48	1.17
Others	22.31	2.67	21.42
TOTAL QUICK ASSET	63.4	79.91	8.38
QUICK LIABILITIES			
Short term Provision	8.71	6.03	4.22
Short term Borrowing	Nil	Nil	Nil
Short term Trade Pay	15.07	22.59	15.30
Other short term Liabilities	5.21	5.78	3.67
TOTAL QUICK LIABILITIES	28.99	34.4	23.19

Formula: =Quick Asset

Quick Liabilities

2019= 63.4/28.99

=2.18/1

2020= 79.91/34.4

=2.32/1

$$2021 = 8.38/23.19$$

$$= 0.36/1$$

INTERPRETATION:

The interpretation for Acid Test Ratio of all 3 three years is same because its shown the lower ratio of weaker financial position.

3. Proprietor Ratio:

Balance as on 2019,2020,2021	2019	2020	2021
Shareholders Fund	37.1	370.1	22.4
Total Asset	63.4	79.91	8.38

Shorten Paper Title

Formula: = Shareholders Fund. *100

Total Asset

$$2019 = 37.1/63.4 * 100$$

$$= 58.5$$

$$2020 = 370.1/79.91 * 100$$

$$= 4.63$$

$$2021 = 22.4/8.38 * 100$$

$$= 267.3$$

INTERPRETATION:

The interpretation for proprietor ratio of all 3 three years is same because it most dependent on outside fund.

4. Debt-Equity Ratio:

Balance as on 2019,2020,2021	2019	2020	2021
Borrowed Funds	22.4	32.2	24.6
Shareholders Fund	37.1	79.91	22.4

Formula-Borrowed Funds

Shareholders Fund:

$$2019 = 22.4/37.1$$

$$= 0.60$$

$$2020 = 32.2/79.91$$

$$= 0.40$$

$$2021 = 24.6/22.4$$

$$= 1.09$$

Shorten Paper Title

Interpretation:

It indicates that creditors are relatively less and the financial structure of the business is sound

5.Capital gearing Ratio:

Balance as on 2019,2020,2021	2019	2020	2021
Fixed income funds	353.1	259.6	925.3
Non-Fixed income funds	42.58	37.31	42.16

Formula: Fixed income funds

Non- Fixed income funds

$$2019 = 353.1/42.58$$

$$= 8.29$$

$$2020 = 259.6/37.31$$

$$= 6.95$$

$$2021 = 925.3/42.16$$

$$= 21.94$$

Interpretation:

The interpretation for capital Gearing Ratio of all 3 three years is same and it shows that the capital is highly gearing

Finding:

1. The company will not be able to meet its short term debts
2. The company has a weaker financial position
3. The company is most dependent on outside fund
4. The financial structure of the business is sound
5. The capital is highly gearing

Shorten Paper Title

CONCLUSION:

In that last 3 years of data of Bank of Maharashtra is going profit make good. The company will have performed good on next years as per expected. The company has a weaker financial position. The company is most dependent on outside fund.

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AN OVERVIEW OF INVESTMENT AVENUES

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ABSTRACT:

In this project we will see how investors invest their savings to enhance their future consumption possibilities by increasing their wealth. Investment decision requires proper financial planning. Various investment avenues are available in market with their distinct features.

By increasing investors' economic wealth, investors can contribute to economic growth and economic wealth. This analysis helps the company from where companies can have raised the capital through the market. This study helps the Investors, corporates, and many more, to benefit in increasing their financial wealth.

It is a plan to make a habit of investing from small savings, which is made to guide an investor to Select the most suitable investment portfolio that will help them to achieve their financial goals within a given period of time. There are some mantras for investing "Higher the Risk, Higher the Return", "Analysis or Prevention is better than to rectify the mistake".

According to requirement of investors they invest some fund in financial instrument some in nonfinancial instrument. The study aimed to focus on various investment avenues available in India.

We will have a primary data and based on that will we have analysis. There would be some review on literature so we can have their opinion about the project. At the end we will conclude the topic.

KEY WORDS: 1. Investment avenues, 2. economic growth, 3. financial wealth, 4.future consumption,5.financial planning.

INTRODUCTION:

Meaning-

Most of the people keep aside a part of their income as savings. On the other end, Investment is the act of investing the saved money in to financial products with a view to generate income from future. In short, when a person has more money than he requires for current consumption, he would be coined as a potential investor.

INVESTMENT is the employment of funds on assets with the aim of earning income or capital appreciation. In other words, Investment is the commitment of funds which have been saved from current consumption with the hope that some benefits will be received in the future. Thus it is a reward for waiting for money. Saving of the individuals are invested in assets depending on their risk and return demands, safety money, liquidity, the available avenue for investment, various financial institutions, etc. For the achievement of above goals appropriate decisions have to be taken.

Definition of investment avenues-

“Sacrifice of certain present value for some uncertain future value” -WILLIAM F. SHARPE

- “Purchase of a financial asset that produce a yield that is proportional to the risk assumed over some future investment period”- F. AMLING.

CONCEPT OF INVESTMENT:

There are two concept relating to Investment. viz, Economic concept and financial concept of Investment. The economic and financial concepts of investment are related to each other because investment is a part of the savings of individuals which flow into the capital market either directly or through institutions. Thus, investment decisions and financial decisions interact with each other. Financial decisions are primarily concerned with the sources of money where as investment decisions are traditionally concerned with uses or budgeting of money.

ECONOMIC INVESTMENT:

The concept of economic investment means net addition to the capital stock of the society. The capital stock of the society is the goods which are used in the production of other goods. The term investment implies the formation of new and productive capital in the form of new construction and produces durable instrument such as plant and machinery. Inventories and human capital are also included in this concept. Thus, an investment, in economic terms, means an increase in building, equipment, and inventory.

FINANCIAL INVESTMENT:

This is an allocation of monetary resources to assets that are expected to yield some gain or return over a given period of time. It means an exchange of financial claims such as shares and bonds, real estate, etc. Financial investment involves contrasts written on pieces of paper such as shares and debentures. People invest their funds in shares, debentures, fixed deposits, national saving certificates, life insurance policies, provident fund etc. in their view investment is a commitment of funds to derive future income in the form of interest, dividends, rent, premiums, pension benefits

and the appreciation of the value of their principal capital. In primitive economies most investments are of the real variety whereas in a modern economy much investment is of the financial variety.

WHY SHOULD WE INVEST?

Investing ensures present and future financial security. It allows you to grow your wealth and at the same time generate inflation-beating returns. You also benefit from the power of compounding.

Furthermore, investments have the potential to meet your financial goals, such as purchasing a house, accumulating retirement corpus, and building an emergency fund, among others.

Investing instils a sense of financial discipline as you develop a habit of setting aside a particular amount every month or every year towards your investments. Some investment vehicles like Equity Linked Savings Scheme (ELSS), Public Provident Fund (PPF), National Pension System (NPS), etc., help to minimize your tax liability.

Popular Investment Options in India-

In India, you have several investment options. You need to select based on their financial goals, risk tolerance and investment horizon. Some of the popular investment options available in India are:

1.Direct Equity:

It is commonly referred to as a stock investment. It is one of the most preferred investment options among investors. When you buy shares of a company, you indirectly acquire an ownership stake in the company. Long-term stock investment aids in capital appreciation. Stock investment has enormous potential to earn attractive returns, but there are associated risks in this type of investment.

2.Mutual Funds:

A mutual fund comprises a pool of money collected from many investors who share a common investment objective. The money so collected is invested in various instruments such as stocks, bonds, money market, etc. Mutual fund investment is considered to be flexible as you can start or stop investing as per your wish. They offer moderate returns, but the risk is lower than equity investment.

3.Public Provident Fund (PPF):

PPF is a government-backed savings scheme that aims to mobilise small savings and provide a secure post-retirement life to individuals. It is a long-term savings scheme with a lock-in period of 15 years. PPF investments are eligible for tax deductions under section 80C of the Income Tax Act, 1961 and are also considered relatively safe.

4.Employee Provident Fund (EPF):

Just like PPF, EPF is also a retirement-oriented investment scheme that is specifically designed for salaried employees. Under this scheme, a certain percentage is deducted from the employee's monthly salary with an equal contribution from the employer. EPF contribution is eligible for a tax deduction, and the final amount received upon maturity is also entirely tax-free.

5.National Pension System (NPS):

NPS is a retirement pension scheme introduced by the government to build a corpus that can provide a monthly pension to people post-retirement. It has a mandatory lock-in period till retirement; however, you can make partial withdrawals after retirement. Investments made towards NPS are also eligible for a tax deduction.

6.Fixed Deposits:

Fixed deposits are regarded as an ideal investment option for conservative investors. They provide a fixed rate of return for a specific period of investment, thus offering guaranteed returns.

OBJECTIVES:

1. To understand in depth about different investment avenues available in India.
2. To find how investors get information about the various financial instruments.
3. The type of financial instrument they would prefer to invest.
4. What are the factors that they consider before investing?

LIMITATION TO THE STUDY:

- 1.Investment avenues are a vast thing and converting them all is not possible.
- 2.It needs a lot of resources and it is time consuming.
- 3.Analysing all of them is not possible
- 4.Lack of knowledge of people about investment is a major limitation.
- 5.Possibility of unauthorized information cannot be avoided.

SCOPE AND IMPORTANCE TO THE STUDY:

1. To know how people thinks about the investment.
2. People views about investment is changed over decade and in this project we will see in which area people are likely interested to invest in it.

3. The knowledge regarding investment will boost a little bit.
4. We will get to know how people will invest out of their income

REVIEW ON LITREATURE:

1. Juwairiya P. P. (2014) An economical activity which fascinate people from all walks of life is called as investment. Investors face problem in choosing investment avenue from various options. Systematic investment plan is a tool to create a wealth by investing small amount of money every month over a period of time. Systematic investment plan is easy. The author has concluded the topic in this way.

2 Yogesh P. Patel, Charul Patel (2012) This study is to examine the behavioural pattern of investments and various investment alternatives among salaried people working in private sector. Data analyses states that majorities of Male respondents are intended to invest more. Maximum investment in range between 1 lakh to 2 lakhs. The author has concluded the topic in this way.

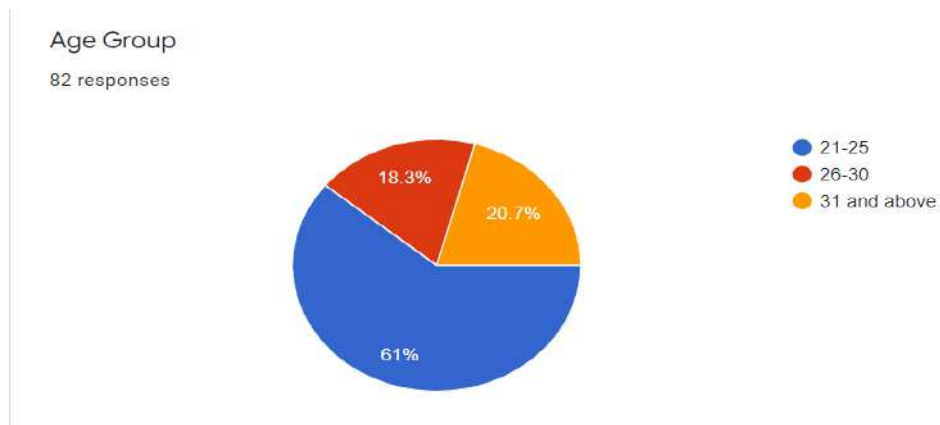
3. Varsha Virani (2013) Investment plans are important to meet consequences in future, to meet financial goals. Economic development is boosted with the help of investments. Investment in Bank helps in circulation of funds for nations development. Financial independence, increase in wealth, and personal goals can be achieved through investments. Investment avenues are divided.

L. Pandiyan, T. Aranganathan. (2012) Decision making process on savings and investment is affected by the attitude of the respondent. Study analyses shows that level of attitude of male and female, female group are not interested in investment, but more wrong investment decisions are made by male group. Respondent of 520 years of age are neutral opinion on investment. Investment pattern is affected by the family size too. The author has concluded the topic in this way.

DATA AND ITS ANALYSIS:

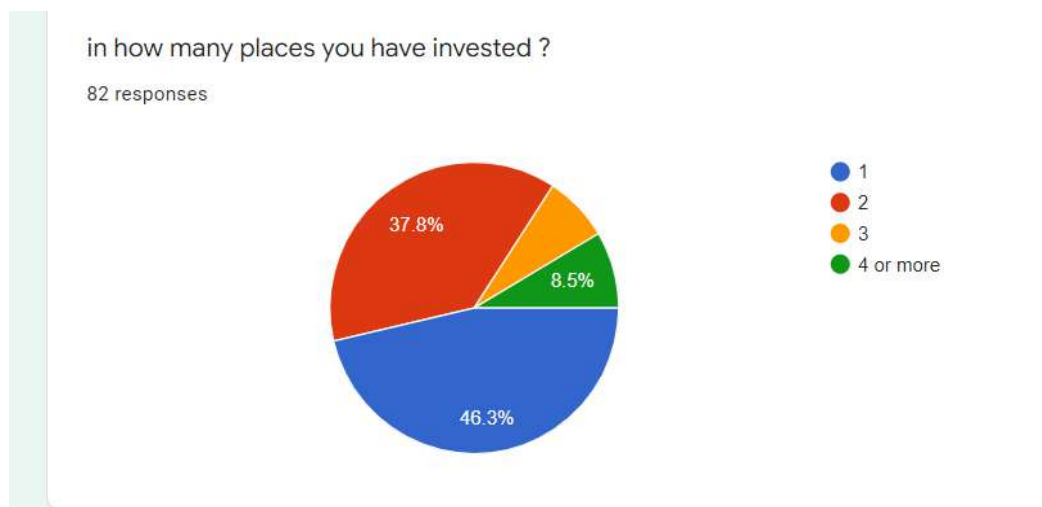
In this project we will analysis the data with a primary data and at the end we will conclude the project based on data acquired.

1. Majority age group between 21-25 opt for the survey regarding the overview of investment avenues. The people opt for the responses is 82 people.

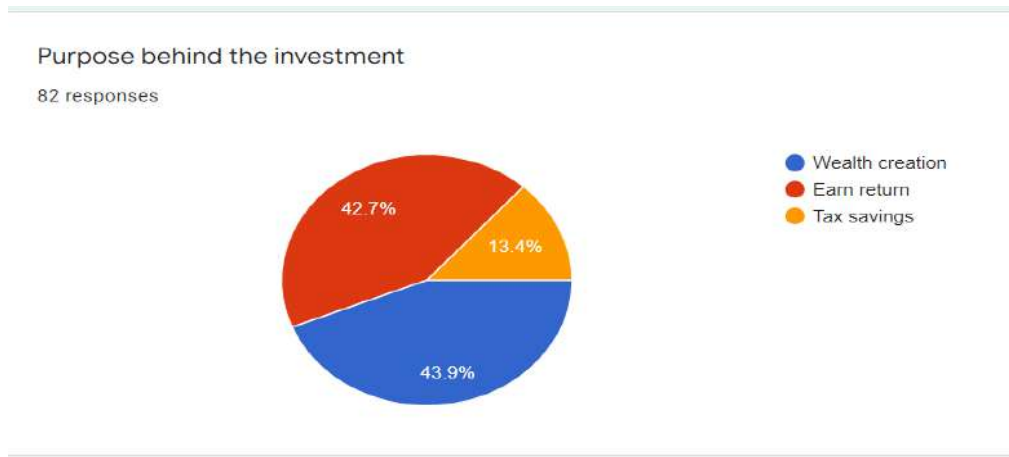


2. In this question of purpose behind the investment? is 42.7% people opt for earn return and 43.9% for wealth creation and rest does investment for tax returns which is 13.4%.

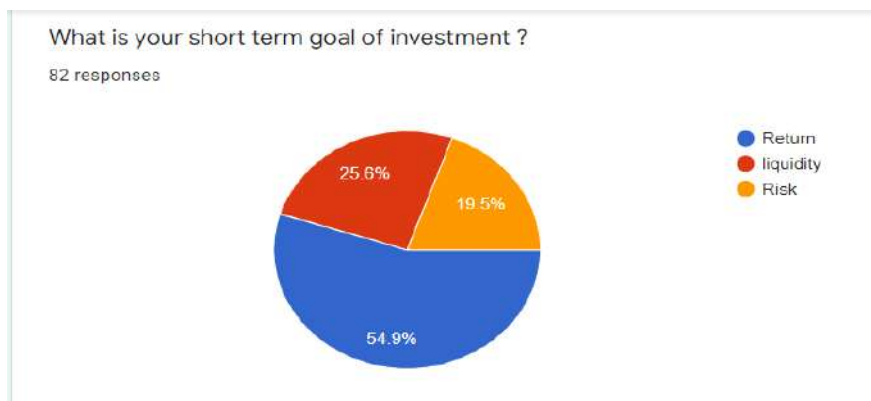
3. In this question how many places you have invested? 46.3% people are invested in one place and 37.8% people invested in 2 places. Interestingly 4 or more i.e. 8.5% is greater than 3 place i.e. 7.1%.



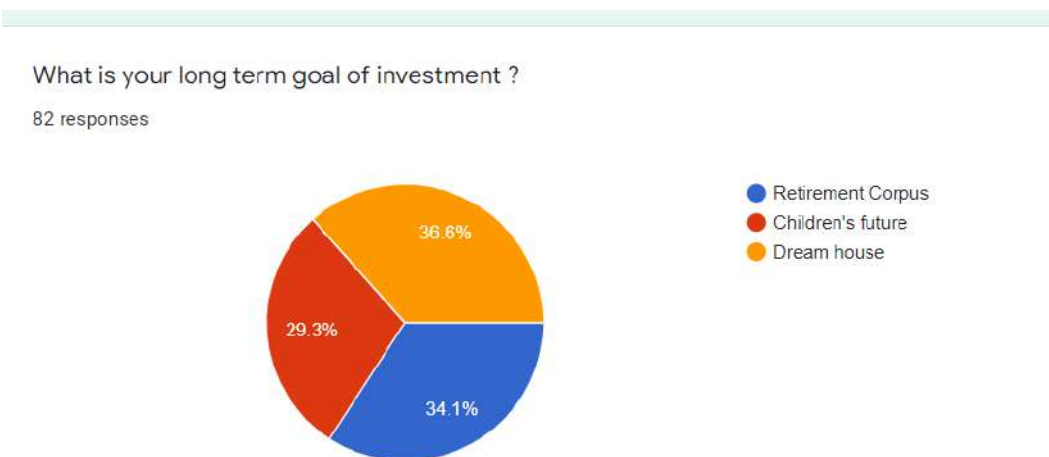
4. In this question what is your short-term goal of investment? About 54.9% of people want return



and 25.6% wants return on there short term investment. And 19.5% want less risk.



5. In this question what is your long-term goal of investment? Majority i.e. 36.6% people does long - term investment for dream house purpose. About 34.1% for retirement purpose. Rest i.e. 29.3% for there children’s future.



CONCLUSION:

By data and analysis, we conclude that most people invest in one place and most investment are done for dream house purpose for long term investment and for short term investment is done

mainly for return purpose. Investment is changing drastically it will change more in near future as people are moving forward to invest rather than keeping their money in locker or somewhere else.

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A STUDY OF IMPACT OF COVID-19 ON DIGITAL PAYMENT IN MUMBAI**REGION****BALAJI KONAR**

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VIDYANKAR SCHOOL of INFORMATION
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The Research on impact of covid-19 on Digital Payments in Mumbai region will covers further how the digital payments have evolved and how it has impacted the before pandemic and during the pandemic and how efficiently were using and what are the difficulties, they were facing how it has been impacted in the pandemic era of living to social distance of the things have been digitalized. In addition, the research assumptions are used in formation of questionnaire focusing about the usage of digital payments in covid 19 during pandemic era and also with the secondary data from various research papers, magazine and journals.

KEYWORDS:

Digital payments, E-wallets, Digital transaction, Covid -19, Cashless Economy.

INTRODUCTION:

In a fastest moving digital world there is one largest growing mode of making payments called as Digital Payments. Digital payment is an emerging concept of that involves a monetary transaction between two or more people by adopting online or digital platform instead of having exchanging money physically. It is a platform where no physical interaction is required to pay or receive sum of money that can be done via mobile or computer across globe round the clock.

The main objective of making payments digital is to have fair recording of all monetary transactions and safeguarding public from loss of theft of their hard-earned money.

COVID-19 or Coronavirus is a serious health disease due to which the whole globe was declared as Shut shops, travel bans and reduced discretionary spends by consumers (on dining out, movies and entertainment and so on) are further negatively impacting digital payments.

Digital payments, once a convenience, have become a necessity in these times. With a majority of the sectors that contribute to digital payments still in a state of flux, it is still too early to ascertain the long-term impact of COVID-19 on digital payments. With people constrained to the boundaries of their homes, it is not surprising that the usage of digital payments rose considerably during this period.

There were more than 180 crore transactions on the Unified Payments Interface (UPI) in September 2020 whereas in August of 2019, there were 161 crore transactions. The Immediate Payment Service (IMPS) had a total of 2.79 crore transactions in September 2020. Bharat Bill Pay had 2.31 crore transactions in September 2020. Data from bankers show that big-ticket spends on hospitality and travel reduced drastically in 2020 due to the travel restrictions although the number of transactions on e-commerce sites through the credit and debit card mode had returned to pre-Covid levels by September 2020.

Such efforts along with opening of cashless economy are further reflected in the recoveries observed in various digital payment platforms on NPCI in a relatively short period of time. This clearly indicates that the detrimental impact of COVID-19 on digital payments, although significant, is not lingering and digital payment ecosystem in India is expected to evolve rapidly to help shape the post-COVID-19 era growth.

OBJECTIVES:

- To find out the effect of covid 19 on digital payments system in Mumbai region.
- To compare the respondents who are using the digital payment mode before lockdown and during lockdown.
- To analyse the mode of payment done by the respondents before lockdown and during lockdown.
- To find the online payment application frequently used by the respondents.
- To analyse the problems faced by them while during online payments.

METHODOLOGY:

The data was collected primarily with the help of Google forms which were circulated among the people irrespective of their demographic characteristics in Mumbai region among my friends, family and neighbourhood .

These responses were tabulated and graphical presentations were used as per requirement. The data was analysed in descriptive form.

The sample size of 50 was finalized for empirical investigation.

Apart from this, the secondary data was obtained from various research journals, magazine, websites and data provider platforms.

LIMITATIONS OF STUDY:

- ❖ This study is limited to the geographical area of Mumbai region.
- ❖ The sample size of 100 was finalized for the study of Digital payments.
- ❖ Less interest shown by respondents in writing their opinions.
- ❖ Research project is carried based on primary and secondary data.
- ❖ Mumbai is one of the most significant cities of the country. only 100 samples selected from the city of their perceptions and usage of digital payments.
- ❖ This study is researched for the period of usage of Pre and Post pandemic of Covid-19 Outbreak.

MEANING AND DEFINITION OF CASHLESS ECONOMY:

Cashless Economy can be defined as a situation in which the flow of cash within an economy is non-existent and all transactions must be through electronic channels such as direct debit, credit cards, debit cards, electronic clearing, and payment systems such as Immediate Payment Service (IMPS), National Electronic Funds Transfer (NEFT) and Real Time Gross Settlement (RTGS) in India.

In a cashless economy most of the transaction will be done by digital means like banking, debit and credit cards, Pos (point of sales) machines, digital wallets etc. In simpler words no liquid money or paper currency will be used by the people in a given country. In a cashless economy the third party will be in possession of your money. He will allow you to transact that money whenever it is needed. If it is not needed then the third party can use that money. Third party can be a government or any other public or private sector bank.

SCOPE OF STUDY:

Digital payments will increase employment , reduce risks related to cash like corruption, robbery, carrying large amounts of cash, helping people to transfer the money with security and safety at high speed.

Worldline India is a leader in the payment and transactions services in the country. Alternative methods like mobile wallets and prepaid cash cards accounted for 3 per cent of digital transactions. This industry has been growing steadily over the past few years. Card transactions, both by debit and credit cards,are on an upward trajectory. There are interesting dynamics at play in the Indianpayments industry.

DATA ANALYSIS AND INTERPRETATION:

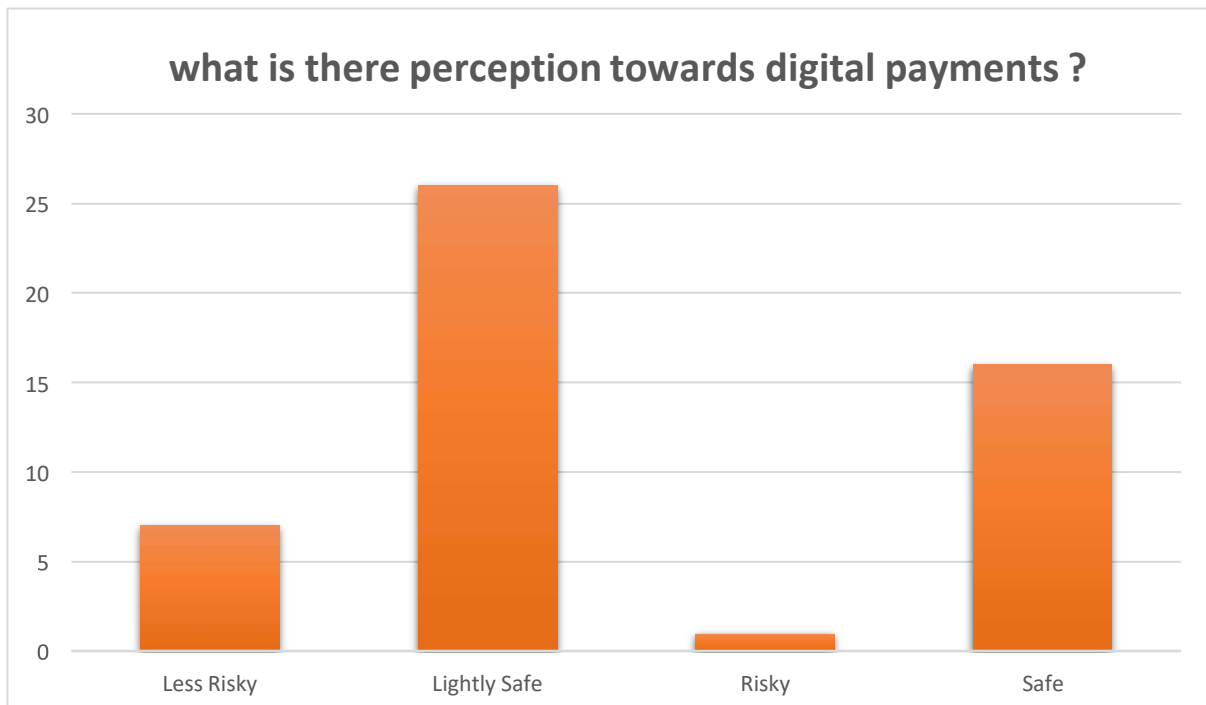


Fig 1.0

As per the data provided from the respondents, they feel that the digital payments are lightly safer and safer with the parameters given in the questionnaire.

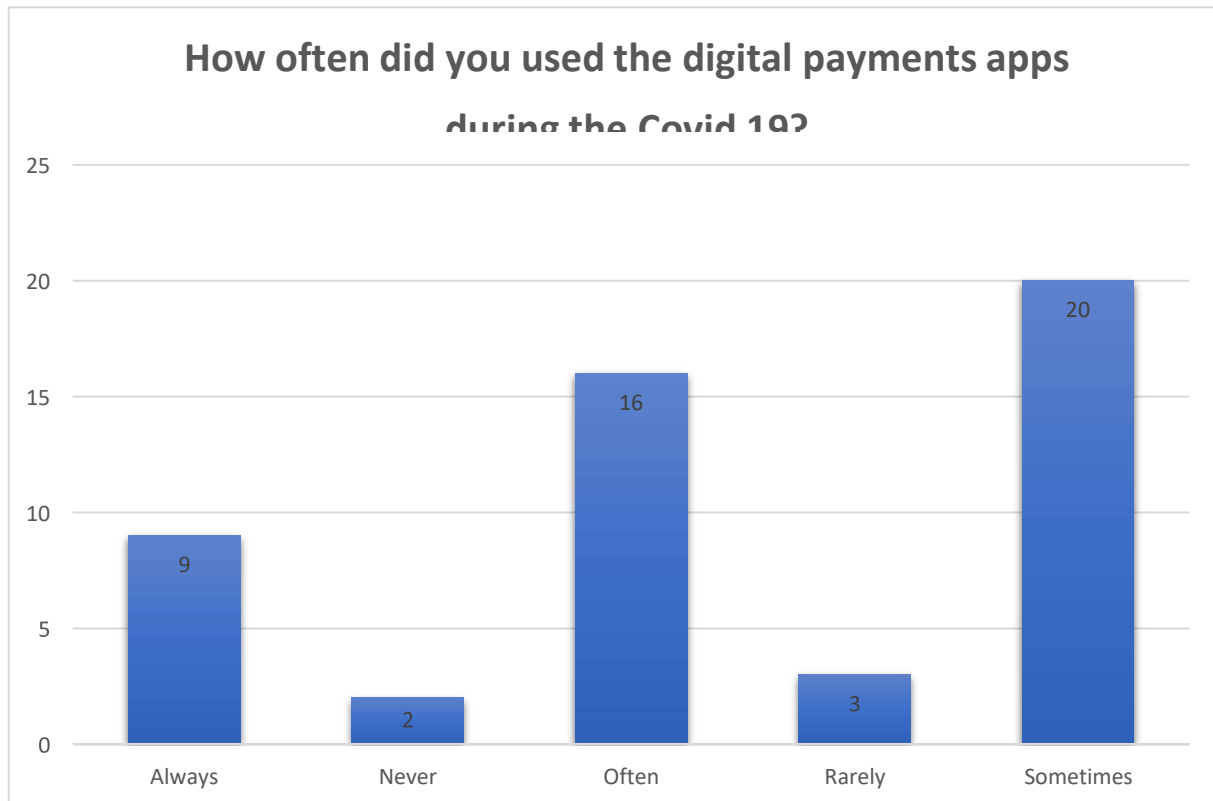


Fig 2.0

As per the data provided from the respondents feels that the usage of digital payments during the covid-19 period various parameters were given to their preference to choose of their usage parameters are as follows : Always, Never, Often, Rarely, most of respondents feels that they use digital payments apps , often and sometimes during the pandemic era.

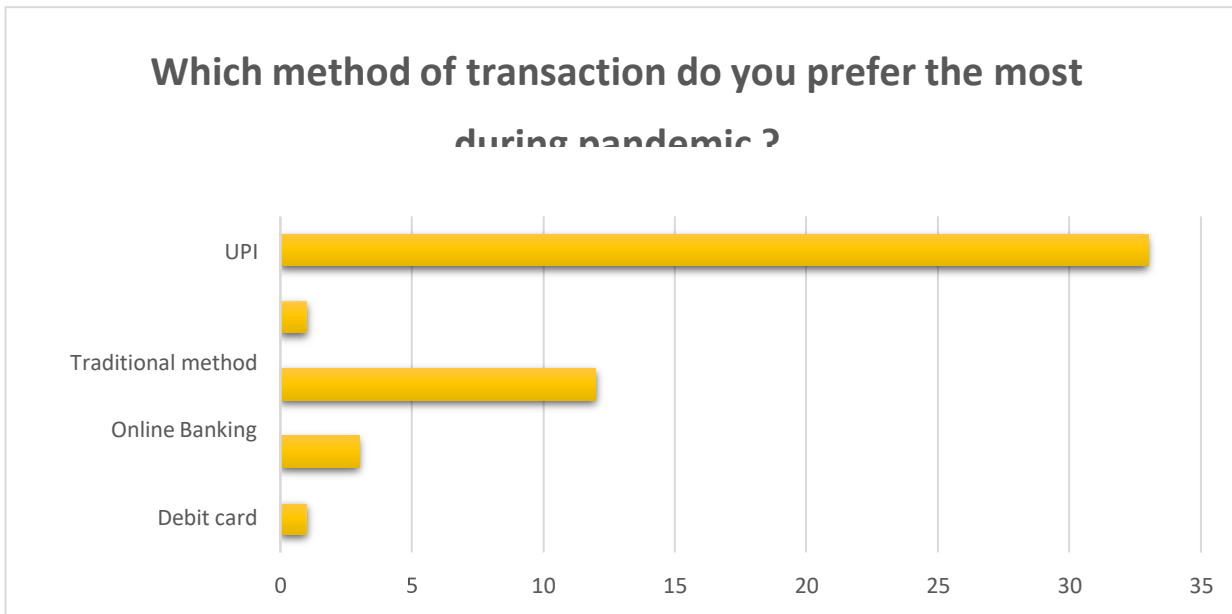


Fig 3.0

As per the data provide from the respondents feels that the method of transaction preferred the most during the covid-19 period various parameters were UPI, Traditional method ,Online Banking ,Debit card, Credit card. Fromthose parameters UPI is most used transaction method for payments, Online banking is also the most used transaction method and rest all method has been the mild usage.

Which services do You pay using these apps ?

50 responses

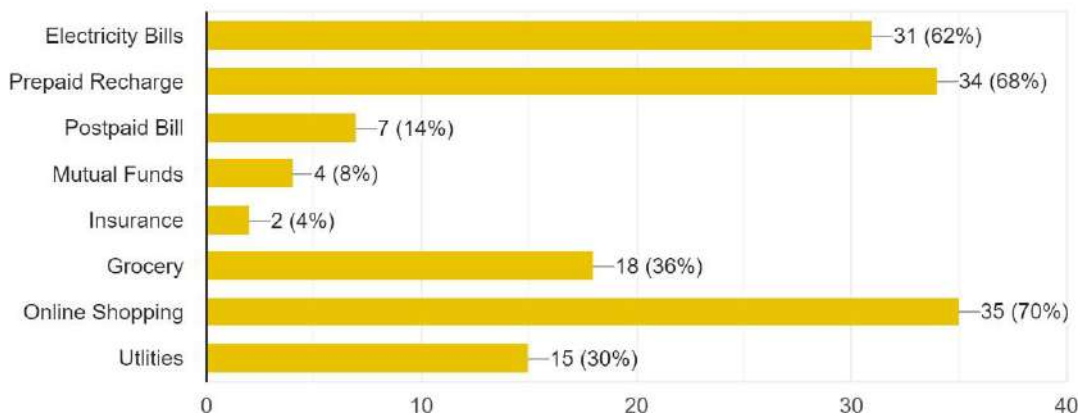


Fig 4.0

As per data provided from the respondents services that they pay with the help of digital payments apps were given various parameters were as electricity bills, prepaid recharge, postpaid bill, Mutual funds, Insurance, Grocery, Online shopping and Utilities. From those parameters Online shopping have been the most paid using digital payments. second most used is the Prepaid recharge, third most used is electricity bills have been paid using digital payment method.

Fig 5.0

As per the data provided from the respondents to ensure the security measures that could have been secured against various kinds of digital payments attacks for that various parameters were given were as follows User education , Self- awareness in security , limiting digital activities, Installing Anti Malicious Software , Increasing / Updating level of digital payments apps from these they feel that self-awareness in security should be created in the society and surrounding about the usage and information of digital payments, they also feel that user education is must to understand the whole process of the digital payments. updating level of digital payments apps at regular interval to fix their errors and bugs and also for the improvement .

CONCLUSION:

The awareness and importance of digital payment usage during pandemic conditions has been educated by peers, friends and family members to avoid physical cash transactions in nook and corner of the country. The existing digital payments users are suggested to create more awareness among others by educating the importance, performance, usage and benefits of digital payments as compared as traditional payment channels. The view of service providers are of that to improve better design and content to attract more customers towards usage and adoption of digital payments in their day-to-day life in pandemic and

other similar emergency situations. Further, Digital payments is a useful platform to perform cash transactions to escape from Covid19 virus or other similar outbreak and helps to maintain social distancing, avoiding unnecessary standings in long queue and avoiding physical touch during cash transactions. The Government and RBI must take more initiatives to create more awareness among bank customers to digital payments during pandemic conditions in the country simultaneously, to inculcate habit of regular usage and acceptance in their day-to-day life.

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Ratio Analysis of Madras Rubber Factory Limited

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ABSTRACT:

This study has been conducted on Madras Rubber Factory, commonly known as MRF or MRF Tyres. For which we gathered the data of 3 financial years (2019,2020,2021). The accounting information has been collected from Stock edge website. This paper is completely based on secondary data. In this study the researcher has attempted to analyse the ratios of Balance sheet and Income statement for 3 Financial years and commented on each of the while studying the assets, liabilities and so on.

INTRODUCTION:

Madras Rubber Factory, commonly known as MRF or MRF Tyres, is an Indian Multinational tyre manufacturing company. This study is based on the financial statements of the same company. It is a study of three years (2019,2020,2021) based on secondary data taken from applications like Stock Edge and Money Control. Few ratios are calculated and evaluated the financial status of this company.

OBJECTIVES:

1. To understand the financial status of the company.
2. To understand and compare the ratios on the basis of their balance sheet and income statement.
3. To understand evaluate whether to invest in the future
4. To understand the efficiency of the company.

Ratio Analysis of Madras Rubber Factory Limited

REVIEW OF LITERATURE:

Review 1:

Keith A Houghton, David R Woodliff (1987), Monetary Proportions: The Expectation of corporate victory and disappointment. This paper explored around the budgetary proportions to foresee the trade disappointment. This has done from both the Human Information Handling (HIH) and from the forecast from natural predictability.

Review 2:

Katchova & Enlow (2013) inspected how publicly-traded agribusinesses perform financially compared to all firms over the period from 1961 to 2011. The think about was conducted utilizing financial ratios and adjust sheet/income explanation things, to compare agribusiness firms to all firms in the market.

Review 3:

Slavickiene & Savickiene (2014) dissected the cultivate financial reasonability appraisal methodology, using 23 monetary proportions and 10 non-financial markers, counting 5 repeating markers, namely Return on Value, Cost to Pay Proportion, Obligation Proportion, Net Return, and Yield to Financial Size Unit Proportion. The analysts evaluated the strategy by applying to Lithuanian ranches and then comparing the comes about with ranches of European Union nations. The think about found that there was no best strategy for the appraisal of financial reasonability of rural possessions.

METHODOLOGY:

This study is thoroughly based on the secondary information gotten online through various applications, websites, textbooks, etc. This information contains the financial information of the company of last three accounting years.

LIMITATIONS:

Due to the pandemic period the information provided was limited to some reasons, which are listed below:

1. We could gather information only from the Internet
2. Various needed resources were not assessable
3. This study focuses on only 3 years financial data.

DATA ANALYSIS:**Balance sheet as on 2019,2020,2021**

Ratio Analysis of Madras Rubber Factory Limited

Particulars	Year (march 2019) (in crores)	Year (march 2020) (in crores)	Year (march 2021) (in crores)
Non-current liabilities			
Long term borrowings	1055	779	812
Deferred tax liabilities	840	429	380
Long term trade pay	0	0	0

Other long-term liabilities	76.32	578	497
Long term provisions	168	190	212
Total	2139.32	1976	1901
Current liabilities			
Short term borrowings	1048	731	915
Short term trade pay	1709	1905	3441
Other short-term liabilities	2547	2460	1707
Short term provisions	160	156	203
Total	5464	5252	7266
Non-current assets			
Fixed assets	8189	10611	10443
Long term investments	1057	5.58	1130
Long term loan and adv.	658	596	566

Other long-term assets	72.93	78.56	75.45
Total	9976.93	11291.14	12214.45
Current assets			
Short term investments	2798	1514	4744
Inventories	2993	2905	2939
Sundry debtors	2383	2299	2254
Cash and bank	105	1181	169
Others	186	252	260
Total	8465	8151	10366

Ratio Analysis of Madras Rubber Factory Limited

Total assets	18441	19442	22582
Equity and liabilities	18441	19442	22582
Shareholder funds			

Share capital	4.24	4.24	4.24
Reserve	10833	12210	13409

Current ratio:

Formula	Year (march 2019)	Year (march 2020)	Year (march 2021)
	8465	8151	10366
	$5464 = 1.5$	$5252 = 1.5$	$7266 = 1.4$

Interpretation: In the above table the ratios of all three years i.e., 2019,2020,2021 are not matched by the standard ratio. High current ratio will indicate that company will be able to pay debts maturing in a year.

Proprietary ratio:

Formula	Year (march 2019)	Year (march 2020)	Year (march 2021)
	10837	12215	13414
	$18441 \times 100 =$ 58.76	$19442 \times 100 =$ 62.82	$22582 \times 100 =$ 59.40

Interpretation: In the above table the ratios of all three years i.e., 2019,2020,2021 are not matched by the standard ratio. Higher the ratio means the company is less dependent on the outside funds and the company is quite solvent.

Quick ratio:

Formula	Year (march 2019)	Year (march 2020)	Year (march 2021)
	5472 $2707 = 2.02$	5246 $2616 = 2.00$	7427 $1910 = 3.88$

Interpretation: In the above table the ratios of all three years i.e., 2019,2020,2021 are not matched by the standard ratio. Greater the ratio, higher is the financial position

Ratio Analysis of Madras Rubber Factory Limited

Debt equity ratio:

Formula	Year (march 2019)	Year (march 2020)	Year (march 2021)
	2103 $10837 = 0.19$	1510 $12215 = 0.12$	1727 $13414 = 0.12$

Interpretation: In the above table the ratios of all three years i.e., 2019,2020,2021 are not matched by the standard ratio so it will be difficult to pay debt. If the debt is less than two times the equity, it means that creditors are relatively less and the financial structure of the business is sound.

Income statement for the year ended 2019,2020,2021

Particulars	Year (march 2019) (in crores)	Year (march 2020) (in crores)	Year (march 202021) (in crores)
Net sales	16062	16239	16163

Net sales after tax	1131	1423	1277

Net profit ratio:

Formula	Year (march 2019)	Year (march 2020)	Year (march 2021)
net profit after tax	1131	1423	1277
net sales X 100	$16062 \times 100 = 7.04$	$16239 \times 100 = 8.76$	$16163 \times 100 = 7.90$

Interpretation: As there is no standard ratio for the above ratio, higher the ratio indicates higher efficiency of business and better utilization of resources.

FINDINGS:

1. **Current ratio:** 2:1 is the standard current ratio. As we can see the ratio is low which indicates that this company will be not be able to meet its short-term debt.
2. **Proprietary ratio:** 0.5:1 in standard proprietary ratio. As we can see the ratio is a bit higher than the standard ratio so the company more or less need to dependent on outside fund for solvency.
3. **Quick ratio:** 1:1 is the standard quick ratio. As we can see that the ratio does not have a huge difference so it has stable financial position.

Ratio Analysis of Madras Rubber Factory Limited

4. **Debt Equity ratio:** 2:1 is the standard debt-equity ratio. As we can see the debt ratio is less and the company is financially stable
5. **Net profit ratio:** there is no standard ratio. Higher ratio is indicating better efficiency of the

business.

CONCLUSION:

After all the findings we can conclude that the company is stable for the last three years. The company is earning good profit to survive. The company is having its ups and downs but the overall performance is good.

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A STUDY ON RATIO ANALYSIS OF WIPRO LIMITED

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ABSTRACT:

This study has been conducted on WIPRO Ltd. For which we gathered the data of 3 financial years (2018' 2019, 2020). The accounting information has been collected from Stock edge website. This paper is completely based on secondary data. In this study the researcher has attempted to analyses the ratios of Balance sheet and Income statement for 3 Financial years and commented on each of the ratios.

Keywords: Ratios, Current assets, Quick assets.

INTRODUCTION:

Wipro Limited (NYSE: WIT, BSE: 507685, NSE: WIPRO) is a leading global information technology, consulting and business process services company. We harness the power of cognitive computing, hyper-automation, robotics, cloud, analytics and emerging technologies to help our clients adapt to the digital world and make them successful. A company recognized globally for its comprehensive portfolio of services, strong commitment to sustainability and good corporate citizenship, we have over 220,000 dedicated employees serving clients across six continents. Together, we discover ideas and connect the dots to build a better and a bold new future.

OBJECTIVES:

- To make comparison between the ratios during different periods.
- To evaluate various facts of financial performance of the Wipro Ltd company.
- To understand efficiency level of the company.

LIMITATIONS:

- Very short time span was given.

- Not able to access various resources.
- Only able to rely on resources which available on internet.

REVIEW OF LITERATURE:

In [3], the creators in them ponder on Liquidity Administration analyses the liquidity administration amid 1995 – 1996 with the help of chosen proportions. They concluded that there was insufficiency of stores due to a tall commitment of stock in current assets.

In [4], the creators centered on analyzing the structure of liquidity position use and benefit. The consider has too pointed out that the companies depend more on inner financing and the by and large productivity has been expanding at a direct rate.

In [5], the creators conducted a ponder on Budgetary Data it bargains with measures of liquidity, dissolvability and finance streams and describes how to set up guidelines against which a company's financial proportions can be compared.

Ratio analysis of Wipro limited

METHODOLOGY:

It alludes to the information collected by somebody other than the client i.e. the information is as of now accessible and analyzed by somebody else. Common sources of auxiliary information incorporate books, magazines, daily papers, diaries etc. In this consider, secondary information collection was utilized.

DATA ANALYSIS:

1. Current Ratio:

Balance sheet for the year ended 2019,2020 and 2021

Particular	Year 2019		Year 2020		Year 2021	
	Amt (Rs) (Cr)	Amt (Rs) (Cr)	Amt (Rs) (Cr)	Amt (Rs) (Cr)	Amt (Rs) (Cr)	Amt (Rs) (Cr)
Current assets						
a) Quick						

assets						
St investments	22072		18964		17571	
Inventories	395		187		106	
Sundry debtors	10049		10447		9430	
Cash and bank	15853		14450		16979	
Others	8822		7938		8232	
Total assets	82364	139555	80678	132664	82566	134884
b) Non quick assets						
Lt investments	815		1069		1204	
Lt loans and advances	2854		2445		3003	
Other Lt assets	1898	5567	1237	4751	1147	5354
Total current assets		145122		137415		140238
Current liabilities						
a) Quick liabilities						
St provision	2060		2509		3280	
St borrowing	6809		5402		6036	
St trade	6266		5840		5417	
Other St liabilities	6301	21436	7888	21639	8270	23003

b) Non quick liabilities						
Lt borrowing	2837		484		746	
Other provisions	1311		1697		1413	
Total current liabilities		4148		2181		2159

Formula

Current ratio= current assets

Current liabilities

$$2019 = 139555 / 21436 = 6.51$$

$$2020 = 132664 / 21639 = 6.13$$

$$2021 = \underline{134884}$$

23003

= 5.86

INTERPRETATION:

High current ratio will indicate that company will be able to pay debts maturing in a year

2. Proprietary ratio:

Balance sheet for the year ended 2019,2020,2021	2019	2020	2021
Shareholders fund	56423	55322	54901
Total assets	82364	80678	82566

Formula

Proprietary ratio= shareholders fund. \times 100.

Total assets

2019= $\frac{56423}{82364} \times 100$

82364

= 68.50%

2020= $\frac{55322}{80678} \times 100$

80678

= 68.57%

2021= $\frac{54901}{82566} \times 100$

82566

= 68.57%

INTERPRETATION:

Higher the ratio means the company is less dependent on outside funds & the company is quite solvent

Ratio analysis of Wipro limited.

3. Net profit ratio:

<u>Balance sheet for the year ended 2019, 2020 and 2021</u>	2019	2020	2021
Net profit after tax	2614	2725	2530
Net sales	59019	61138	61943

Formula

Net profit ratio = $\frac{\text{net profit after tax}}{\text{net sales}} \times 100$

Net sales

$$2019 = \frac{2614}{59019} \times 100$$

59019

$$= 4.4$$

$$2020 = \frac{2725}{61138} \times 100$$

61138

$$= 4.4$$

$$2021 = \frac{2530}{61943} \times 100$$

61943

$$= 4.08$$

INTERPRETATION:

Higher ratio indicates higher efficiency of business & better utilization of resources

4. Return on equity:

Balance sheet as on 2019, 2020, 2021

Particulars	2019	2020	2021
Net profit	9022	9769	10855
Net worth	56423	55322	54901

Formula: = $\frac{\text{Net profit}}{\text{Net worth}}$

Ratio analysis of Wipro limited

Net worth

$$2019 = \frac{9022}{56423}$$

$$= 17.37$$

2020= 9769/55322

= 17.55

2021= 10855/54901

=19.78

Interpretation: -

Higher ratio signifies better utilization of fund.

5. Capital gearing Ratio:

Balance as on 2019,2020,2021	2019	2020	201
Fixed income funds	-341	-206	39
Non Fixed income fund	21925	25695	36115

Formula: - Fixed income funds

Non- Fixed income funds

2019= -341 /21925

= -0.015

2020= -206 /25695

= -0.008

Ratio analysis of Wipro limited

2021= 39 /36115

= 0.001

Interpretation: - when the ratio is more than 1 the capital is said in highly gearing.

FINDINGS:

- 1.It indicates higher efficiency of business.
- 2.It also have the better utilization of total resources.
- 3.company's creditors enjoy lower level of safety.

4. company is dependent less on outside fund.

CONCLUSION:

Company's ratio are going up and down they are different for three years. The company's ratio is going higher and lower there is no fixed ratio. As per analysis the business is high and it also have the better utilization of total resources. And the company enjoy lower level of safety.

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THE STUDY ON TVS GROUP ADHERING TO BEST ETHICAL CORPORATE GOVERNANCE PRACTICES**Darshan Duggad**

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Guide

Vidyalankar school of
information technology**ABSTRACT:**

Corporate governance is the system of rules, practices, and processes by which a firm is directed and controlled. Corporate governance essentially involves balancing the interests of a company's many stakeholders, such as shareholders, senior management executives, customers, suppliers, financiers, the government, and the community.

Since corporate governance also provides the framework for attaining a company's objectives, it encompasses practically every sphere of management, from action plans and internal controls to performance measurement and corporate disclosure.

Governance refers specifically to the set of rules, controls, policies, and resolutions put in place to dictate corporate behaviour. Proxy advisors and shareholders are important stakeholders who indirectly affect governance, but these are not examples of governance itself. The board of directors is pivotal in governance, and it can have major ramifications for equity valuation.

A company's corporate governance is important to investors since it shows a company's direction and business integrity. Good corporate governance helps companies build trust with investors and the community. As a result, corporate governance helps promote financial viability by creating a long-term investment opportunity for market participants.

KEYWORDS: Ethical, corporate governance, TVS, organization, practices & company.

INTRODUCTION:

TVS Group is an Indian multinational conglomerate with its principal headquarters in Madurai and international headquarters in Chennai. It has more than 50 subsidiaries including the two-wheeler manufacturer TVS Motor Company and TVS Supply Chain Solutions.

TVS in line with TVS Group philosophy, truly believes in Independence, responsibility, transparency,

professionalism, accountability and code of ethics, which are the basic tenets of corporate governance. TVS always seeks to achieve optimum performance at all levels in adopting and adhering to best corporate governance practices. TVS has always focused on corporate governance as a means to maximize long-term stakeholders' value through disciplined and sustained growth and value creation.

The board of directors (the board) has adopted a code of business conduct and ethics (the code) for all board members and senior management personnel viz., personnel who are members of TVS core management team, all members of management one level below. The chief executive officer/managing director/whole-time director/manager (including chief executive officer/manager, in case they are not part of the board), Company Secretary and Chief Financial Officers.

Corporate governance is concerned with holding the balance between economic and social goals and between individual and communal goals. The governance framework is there to encourage the efficient use of resources and equally to require accountability for the stewardship of those resources. The aim is to align as nearly as possible the interests of individuals, corporations and society.

Business ethics is too often conceived as a set of impositions and constraints, obstacles to business behaviour rather than the motivating force of that behaviour ... properly understood, ethics does not and should not consist of a set of prohibitive principles or rules, and it is the virtue of an ethics of virtue to be rather an intrinsic part and the driving force of a successful life well lived. Its motivation need not depend on elaborate sul-searching and deliberation but in the best companies moves along with the easy flow of interpersonal relations and a mutual sense of mission and accomplishment.

NEED OF ETHICAL CORPORATE GOVERNANCE PRACTICES:

Corporate governance is important because it creates a system of rules and practices that determine how a company operates and how it aligns the interest of all its stakeholders. Good corporate governance leads to ethical business practices, which leads to financial viability.

OBJECTIVE OF CORPORATE GOVERNANCE:

- To help build an environment of trust, transparency and accountability necessary for fostering long-term investment, financial stability and business integrity, thereby supporting stronger growth and more inclusive societies.
- To create social responsibility.

- To create a management accountable for corporate functioning.
- To develop an efficient organization culture.
- To protect and promote the interest of shareholders.

PILLARS OF GOOD CORPORATE GOVERNANCE:

- Transparency of corporate operations.
- Accountability towards shareholders.
- Fairness in dealing.

THE TVS GROUPS:

TVS Group Companies was established in 1911, thanks to the ambitious dreams of the founding father, T V Sundaram Iyengar, who refused to settle managing smaller businesses like bus fleet operations or vehicle servicing.

He wanted to build a business that would create a family of like-minded individuals pursuing only the best in quality and standards. And he made his dreams a reality.

- Total Group Revenue: Rs 59400 Cr
- Number of Companies under TVS Group: More than 90 Companies

The success of the TVS group is rooted in their founder's personal belief system – a commitment to the values of trust and customer service. Although the company is named after the founder, the letters TVS have always stood for Trust, Value, and Service within the company.

This remains the guiding, overarching philosophy by which the group functions. It was only natural that success and market leadership followed.

Today, the TVS Group is one of India's leading suppliers of automotive components, with over 90 Companies under its umbrella and a revenue of around INR. 59400 Cr in 2017-18. The first four companies in India to have won the coveted Deming Prize are from the TVS Group.

TVS Motor Company – The third largest 2-wheeler manufacturer in India. TVS Motor Company is the third largest 2-wheeler company in India with a revenue of over ₹18,217 crores (over US\$2.9 billion).

TVS Motor has footprints globally, including geographies like Middle East, Africa, SE Asia, Indian subcontinent, Latin & Central America.

- Total Sales: ₹18,217 crores (over US\$2.9 billion)

- Annual Production Capacity: over 4.95 million vehicles

It has an annual sale of more than 3 million units and an annual capacity of over 4.95 million vehicles. TVS Motor is also the 2nd largest exporter in India with exports to over 60 Countries. A member of the TVS Group, it is the largest company of the group in terms of size and turnover.

TVS Motor manufactures the largest range of 2-wheelers, starting from mopeds, to scooters, commuter motorcycles, to racing inspired bikes like the Apache series and the RR310.

The company has four manufacturing plants, three located in India (Hosur in Tamil Nadu, Mysore in Karnataka and Nalagarh in Himachal Pradesh) and one in Indonesia at Karawang.

COMPANY VISION:

“We are committed to being a highly profitable, socially responsible, and leading manufacturer of high value for money, environmentally friendly, lifetime personal transportation products under the TVS brand, for customers predominantly in Asian markets and to provide fulfillment and prosperity for employees, dealers, and suppliers.” – TVS GROUPS.

TVS Motor Company, a leading manufacturer of personal transportation products firmly believe in the integration of Environment, Occupational Health and Safety aspects with all business activities and ensure the well-being of employees and society.

They are committed to:

- Set and continually improve the performance standards in all aspects of EHS including compliance with legal and other requirements.
- Prevent pollution due to emission, effluents and wastes and contribute to conservation of resources.
- Contribute in combating climate change by improving energy efficiency and use of renewable energy
- Continue to connect with nature and ensure the protection of natural habitats.
- Provide safe work environment, prevent injury and ill health at the work place.
- Involve employees in driving the improvement of environment, occupational health and safety.
- Provide education, training and counselling to employees. Support suppliers, dealers and contractors in adopting sound EHS practices.

COMPANY'S PHILOSOPHY ON CODE OF GOVERNANCE:

As a TVS Group Company, the Company has a strong legacy of fair, transparent, and ethical governance practices. The Company's philosophy on corporate governance is founded on the fundamental ideologies of the group viz., Trust, Value and Service.

The Company believes in ensuring corporate fairness, transparency, professionalism, accountability, and propriety in total functioning of the Company, which are pre-requisites for attaining sustainable growth in this competitive corporate world. Obeying the law, both in letter and in spirit, is the foundation on which the Company's ethical standards are built. The company would constantly endeavor to improve on these aspects.

The Company ensures good governance through the implementation of effective policies and procedures, which is mandated and reviewed by the board of the committees of the members of the Board.

TVS Groups always seeks to achieve optimum performance at all Levels in adopting and adhering to best corporate governance practices. TVS Groups has always focused on corporate governance as a means to maximize long-term stakeholders' value through disciplined and sustained growth and value creation.

CODE:

This code of business conduct and ethics helps to ensure compliance with legal requirements and standards of business conduct.

The board of directors (the board) has adopted a code of business conduct and ethics (the code) for all board members and senior management personnel viz., all members of management one level below executive directors, including all functional heads. Every board member and senior management personnel is expected to read and understand this Code and its application to the performance of his or her duties, functions and responsibilities.

COMPLIANCE OFFICER:

Company secretary is the compliance officer for the purpose of this code. The compliance officer shall refer to the chairman of the board any complaint received for necessary action.

HONESTY, INTEGRITY & PROFESSIONAL CONDUCT:

All board members and senior management personnel shall:

- Conduct their activities, on behalf of TVS and on their personal behalf, with honesty, integrity and fairness and uphold ethical standards of integrity and probity.

- Act in good faith, responsibility, with due care, competence and diligence, without allowing their independent judgement to be subordinated and objectively and constructively, while exercising his / her duties.
- Act in the best interest of TVS, its various stakeholders including TVS shareholders and fulfil the fiduciary obligations and exercise his responsibilities in a bona fide manner in the interests of TVS.
- devote sufficient time and attention to his / her professional obligations for informed and balanced decision making.
- Not engage in conduct that is likely to bring discredit upon TVS. • not use his position to the detriment of TVS or its shareholders or for the purpose of gaining direct or indirect personal advantage or advantage for any associated person.
- not allow any extraneous considerations that will vitiate his exercise of objective judgments in the paramount interest of TVS as a whole, while concurring in or dissenting from the collective judgment of the Board in its decision making.
- Comply with every provision of this Code and assist TVS in implementing the best corporate governance practices.

FAIR DEALING:

All board members and senior management personnel should deal fairly with TVS Customers, suppliers, competitors, officers and employees. No board member or senior management personnel may take unfair advantage of TVS customers, suppliers, competitors or employees through manipulating, Concealment, abuse of privileged information, misrepresentation of material facts or any other unfair dealing practice. Gift or entertainment in any form that is likely to result in a feeling of expectation of personal obligation should not be accepted or extended.

CORPORATE OPPORTUNITIES:

All board members and senior management personnel shall not exploit for their own Personal gain opportunities that are discovered through the use of TVS property, Information or position unless the opportunity is disclosed fully in writing to the board and the board gives its approval to pursue such opportunity.

SEXUAL HARRASMENT:

The board and senior management personnel shall not indulge in sexual harassment whether directly or by implication which includes such unwelcome behaviour or physical contact and advances, or a

demand or request for sexual favors, sexually colored remarks, display of pornographic material or any other verbal or nonverbal communication of sexual nature is strictly prohibited.

CONFIDENTIAL INFORMATION:

All board members and senior management personnel shall maintain confidentiality of Information (price sensitive or otherwise) they receive while being in office of TVS and they may also ensure security of information of TVS. They will also ensure that the interests of any employee who uses the vigil mechanism to report genuine concerns about unethical behaviour, are not prejudicially affected on account of such use and shall maintain confidentiality of all matters under their policy.

PROTECTION OF ASSEST:

The board and senior management personnel shall endeavor their best to protect TVS assets and shall not use the same for personal benefit, unless approved by the board.

REGULATION:

All board members and senior management personnel shall comply with all applicable

Laws, rules, regulations and guidelines, including obligations under take-over and Insider trading regulations and shall report actual non-compliances, if any, of law, this Code, or other TVS policies or procedures to the board.

As a public company, it is of critical importance that TVS filings with the Securities And Exchange Board of India, the Reserve Bank of India and/or the concerned stock Exchange (s) on which the securities of TVS are or may be listed be full, fair, Accurate, timely and understandable.

All board members and senior management personnel may be requested to provide Information necessary to ensure that TVS published reports meet these Requirements.

TVS expects all board members and senior management personnel to provide Prompt and accurate answer to enquiries relating to its public disclosure Requirements.

TVS Motor has a well-defined Code of Conduct (CoC) for its employees. All employees are provided a hard Copy of the CoC during induction / training. The CoC is intended to guide the employees in treatment of one Another, as well as their interaction with customers, suppliers, partners, public officials and other stakeholders.

The principles laid down under the CoC are implemented effectively to drive ethical behaviour at all levels. The Company ensures compliance of ethical standards by its vendors and contractors through appropriate clauses in its work contracts to which they are obligated. All suppliers working closely

with employees are expected, in their contracts, to understand and comply with this policy.

TVS is committed to transparency in its financial reporting. TVS cooperates fully with its auditors and under no circumstances withholds information from them. A robust system for financial controls and processes is maintained to ensure the accuracy and timeliness of financial reporting.

The Company has mapped its internal and external stakeholders in a structured way and carries out engagements with investors, employees, customers, suppliers, government, regulatory authorities, trade union and local community. The Company follows a system of timely feedback and response through formal and informal channels of communication to ensure that the stakeholder information remains current and updated.

CONCLUSION:

The Company acts with integrity in accordance with its core principles of Trust, Value and Service. TVS has adopted a separate Code of Business Conduct and Ethics which specifically pertains to the Company's directors and senior management personnel one level below the board, including all the functional heads.

TVS Motor goes beyond its business activities to create social impact through its diverse initiatives and is working towards improving lives of India's marginalized and vulnerable communities.

TVS has taken initiatives under CSR focusing on key areas of Economic Development, Health, Education, Infrastructure, Environment and Social & Cultural Development.

TVS continuously strives to achieve total inclusiveness by encouraging people from all sections of the community irrespective of caste, creed or religion to benefit from its CSR initiatives which would also be focused on communities that reside in the proximity of the Company's various manufacturing locations in the country.

Corporate governance is the system by which companies are directed and controlled. Boards of directors are responsible for the governance of their companies. The shareholders' role in governance is to appoint the directors and the auditors and to satisfy themselves that an appropriate governance structure is in place.

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A STUDY ON ETHICAL FRAMEWORK OF IKEA

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ABSTRACT:

IKEA is one of the world's largest retailers in the world. They have managed to make their products and services more popular based not only by creating a unique shopping experience for the customers. The purpose of this study is to provide a better understanding of the "IKEA experience." To reach this purpose research questions focused on which

factors affect the customer's decision to visit IKEA and how the retail environment can be designed to enhance customer experience. Based on the research questions a literature review was conducted, resulting in a conceptual framework that was used to guide the data collection.

KEYWORDS:

Values, Services, Product, Sales

INTRODUCTION:

IKEA is a favorite among customers searching for well-designed products at low prices. IKEA stores sell ready to assemble furniture, appliances, and household goods. Today the firm is the largest furniture retailer in the world, with 139,000 employees operating in forty-three countries. Germany is the firm's largest market, followed by the United States and France. Its broad range of products includes furniture, food, heavy items such as cabinetry and smaller items such as kitchenware, décor and small plants. IKEA also operates restaurants within their stores.

IKEA has become known for its well-designed, low-cost products, its eco-friendly initiatives, and its reputation for a great workplace. Stores also contain a play area for children called Smaland. Parents can drop their children off in the play area for up to 1 hour free of charge as they go shopping. This has increased IKEA's popularity with families. The company has annual sales of about EUR 27 billion (37 billion USD).

OBJECTIVE:

- The main objective of this mini project is how IKEA works.
- To know about product and services in IKEA.
- The success of IKEA.

HISTORY:

In 1943, Ingvar Kamprad founded IKEA as a mail-order sales business and began to sell furniture five years later. The first store was opened in Almhult, Smaland, in 1958, under the name Mobel-IKEA (Mobel means furniture in Swedish). The first stores outside Sweden were opened in Norway (1963) and Denmark (1969). The stores spread to other parts of Europe in the 1970s, with the first store outside Scandinavia opening in Switzerland (1973), followed by West Germany (1974).

By 1973, the company's expansion was so great it was straining resources. German executives accidentally opened a store in Konstanz (Germany), approximately two hundred miles (320km), from their intended location of Koblenz (Germany). Later that decade, stores opened in other parts of the world, such as Japan (1974), Australia, Canada (1975), Hong Kong (1975). IKEA further expanded in the 1980s, opening stores in countries such as France and Spain (1981), Belgium (1984), the United States (1985), the United Kingdom (1987), and Italy (1989). Germany, with fifty-three stores is IKEA's biggest market, followed by the United States, with fifty-one stores.

The first IKEA store in Latin America opened on 17 February 2010 in Santo Domingo, Dominican Republic. IKEA has announced that the opening of a 65,000m² (699,654.2sq ft) store in Pasay, Philippines by the third or fourth quarter of 2021 is on track. Once opened, it will be the largest IKEA store in the world.

In September 2017, an Apple only IKEA place iPhone app is launched allowing customers to use AR to envision true to scale furniture in their living spaces by placing it there virtually.

In April 2021, IKEA opened its first store in Mexico in Mexico City. During the COVID-19 pandemic in 2020, to facilitate social distancing between customers and accommodate the increased volume of customers who were booking IKEA design consultation services, IKEA stores in Saudi Arabia and Bahrain improved their design consulting process by piloting Ombori's paperless queue management system for the brand. This innovative technology allows IKEA customers to have better accessibility both online and in store, while giving store management visibility and oversight to diffuse potential arising frictions between customers and employees.

IKEA announced in March of 2021 the launch of IKEA Studio, enabling customers to design full



scale rooms with IKEA furniture on an iPhone in this Apple only project for IKEA.

THE IKEA KEY VALUES:

Togetherness:

Togetherness is at the heart of the IKEA culture. They are strongest when they trust each other, pull in the same direction, and have fun together.

Caring for people and planet:

IKEA want to be a force for positive change. They have the possibility to make a significant and lasting impact- today and for the generations to come.

Cost consciousness:

As many people as possible should be able to afford a beautiful and functional home.

IKEA constantly challenge themselves and others to make more from less without compromising on quality.

Simplicity:

A simple, straightforward, and down to earth way of being is part of their Smalandic heritage. It is about being themselves and staying close to reality. They are informal, pragmatic and see bureaucracy as their biggest enemy.

Renew and Improve:

They are constantly looking for new and better ways forward. Whatever they are doing today, they can do better tomorrow. Finding solutions to almost impossible challenges is part of their success and a source of inspiration to move on to the next challenge.

Different with a meaning:

They are not like other companies, and they do not want to be. They like to question existing

solutions, think in unconventional ways, experiment, and dare to make mistakes always for a good reason.

Give and take responsibility:

They believe in empowering people. Giving and taking responsibility are ways to grow and develop as individuals. Trusting each other, being positive and forward looking inspires everyone to contribute to development.

Lead by example:

IKEA see leadership as an action not a position. They look for people's values before competence and experience. People who „walk the talk“ and lead by example. It is about being their best self and bringing out the best in each other.

The IKEA values were shaped during a time in Sweden when the living conditions were harsh. People had to get by with what they had. This fostered a culture of entrepreneurship and challenging work and made people more practical and mindful of resources. A lot has changed since the early days of the IKEA brand. Today they have grown into a global business with the size and reach to create positive change, not only for people but also for the planet. But on the inside not a lot has changed.

They are straight – forward, innovative, creative, and common-sense analytical people.

They are constantly trying to find better ways to get things done and to bring out the best in themselves and others. They strive for a nurturing environment that encourages the entrepreneurs in them. They are enthusiastic about innovation and finding innovative solutions.

PRODUCT AND SERVICES:**Furniture and homeware:**

Rather than being sold pre-assembled much of IKEA's furniture is designed to be assembled by the customer. The company claims that this helps reduce costs and use of packaging by not shipping air, the volume of a bookcase. IKEA contents that it has been a pioneering force in sustainable approaches to mass consumer culture. Kampard calls this “democratic design,” meaning that the company applies an integrated approach to manufacturing and design. In response to the explosion of human population and material expectations in the 20th and 21st centuries, the company implements economies of scale, capturing material streams and creating manufacturing processes that hold costs and resource use down such as the extensive use of Medium- Density Fiberboard (“MDF”), also called “particle board”.

Smart Home:

In 2016, IKEA started a move into the smart home business. The IKEA TRADFRI smart lighting kit was one of the first ranges signaling this change. IKEA's media team has confirmed that smart home project will be a big move. They have also started a partnership with Philips Hue. The wireless charging furniture, integrating wireless Qi charging into everyday furniture, is another strategy for the smart home business. A collaboration to build Sonos' smart speaker technology into furniture sold by IKEA was announced in December 2017. The first products resulting from the collaboration have launched in August 2019.

Houses and flats:

IKEA has also expanded its product base to include flat-pack houses and apartments, to cut prices involved in a first-time buyer's home. The IKEA product, named BoKlok was launched in Sweden in 1996 in a joint venture with Skanska. Now working in the Nordic countries and in the UK, sites confirmed in England include London, Ashton-under-Lyne, Leeds, Gates head, Warrington, and Liverpool.

Solar PV systems:

At the end of September 2013, the company announced that solar panel packages, so called "residential kits", for houses will be sold at 17 UK stores by mid-2014. The decision followed a successful pilot project at the Lakeside IKEA store, whereby one photovoltaic system was sold every day. The solar CIGS panels are manufactured by Solibro, A German-based subsidiary of the Chinese company Hanergy.

Furniture rental:

In April 2019, the company announced that it would begin test marketing a new concept, renting furniture to customers. One of the motivating factors was the fact that

inexpensive IKEA products were viewed as "disposable" and often ended up being scrapped after a few years of use. This was at a time when especially younger buyers said they wanted to minimize their impact on the environment. The company understood this view. In an interview, Atticus Rebirth Mangle, chief executive of Ingka Group (the largest franchisee of IKEA stores), commented that "climate change and unsustainable consumption are among

the biggest challenges we face in society." The other strategic objectives of the plan were to be more affordable and more convenient. The company said it would test the rental concept in all 30 markets by 2020, expecting it to increase the number of times a piece of furniture would be used before

recycling.

Other ventures:

IKEA owns and operates the MEGA Family Shopping Centre chain in Russia. On 8 August 2008, IKEA UK launched a virtual mobile phone network called IKEA Family Mobile, which ran on T-Mobile. At launch it was the cheapest pay-as-you-go network in the UK. In June 2015, the network announced that its services would cease to operate from 31 August 2015.

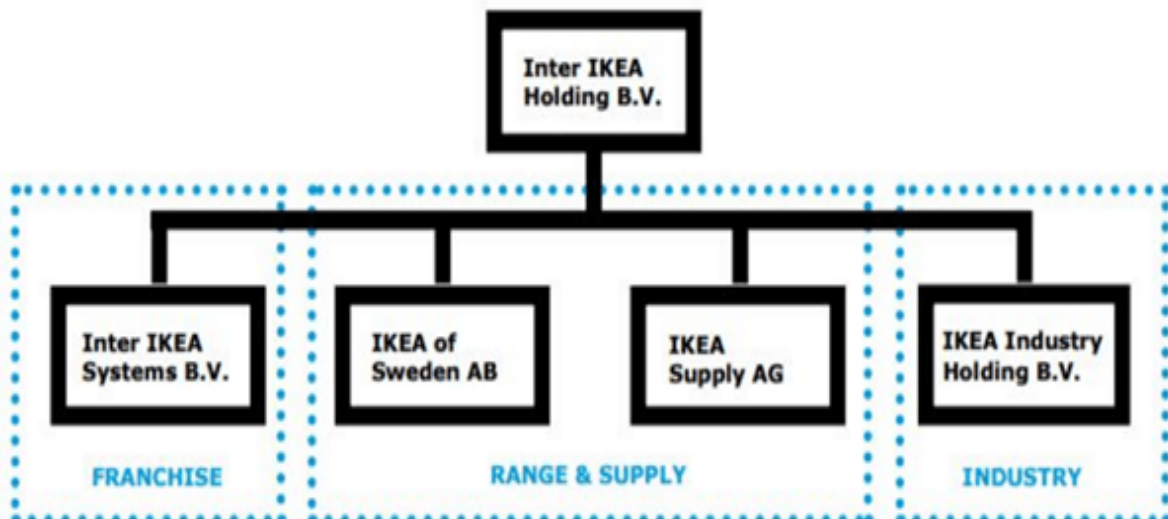
As of 2012, IKEA is in joint venture with TCL to provide Uppleva integrated HDTV and entertainment system product. In mid-August 2012, the company announced that it would establish chain of one hundred economy hotels in Europe but, unlike its few existing hotels in Scandinavia, they would not carry the IKEA name, nor would they use IKEA furniture and furnishings – they would be operated by an unnamed international group of hoteliers.

ETHICAL FRAMEWORK:

The work of the IKEA Foundation is built on a solid foundation of honesty, openness, trust, and fairness. Their ethics are set out on detail in the IKEA Foundation Ethical Framework.

They do not tolerate misconduct. They want all their stakeholders- including their partners and their employees- to feel encouraged and empowered to come forward and raise any concerns they may have related to misconduct.

If we suspect any misconduct in their own activities they fund, they ask us to please come forward, in good faith, to raise our concern. They will treat the matter in the strictest confidence and protect the identities of the people involved



WHAT MAKES IT DIFFERENT?

IKEA is a Swedish company that designs and sells ready-to-assemble furniture (such as beds, chairs, and desks), appliances and home accessories. As of October 2011, IKEA owns and operates 332 stores in thirty-eight countries.

IKEA try establishing a brand image that represent gentle, Swedish-style, environment friendly furniture. Their superior design does attract many people. Unlike normal retail store, IKEA in a one-way design, encouraging customer to see all their product without feeling confused about the way. The whole store is well-designed and feel like a large furnished house, which can easily stimulate customers to buy all the furniture they need in IKEA because they look good together.

One important thing that differs IKEA from other furniture company is their great customer service. In IKEA, every store includes a restaurant serving inexpensive traditional Swedish food. Also, they provide "Picking and delivery service" Home delivery "Assembly" Even they charge extra fee for these, but not all. This makes shopping a lot easier, helping IKEA gain enormous number of customers.

IKEA does well in value proposition and customer relationships, making it unique and successful.

ASSESSING SUCCESS OF IKEA IN INDIA:

IKEA opened their first store in India less than two years ago, so it is too early to determine if the expansion was a success or not. Instead, an attempt will be made to predict if IKEA will be successful in India or not.

As of 2020, IKEA maintains global leadership in their industry, home, and garden.

IKEA's global share was 5.1% in 2018 and has stayed there. Their share in home furnishing in India increased from 0.2% in 2018 to 0.4% in 2019. In 2019 their net profit was 1.5 billion EUR. IKEA has been secretive about its financial figures in India. However, some Indian publications have obtained the figures from the Registrar of companies. According to (Malviya, 2019) the profit was Rs.407 crore and loss was Rs.685 crore in FY 2019. They lost Rs.368 crore in FY 2018. Their profits were in line with rival Urban Ladder and double of competitor Pepper fry.

The sale of home furnishing in India increased from 697,353,5 million INR in 2017 to 750,894,5 INR in 2018. The industry is forecasted to grow rapidly to 1,053,544,1 INR IN 2024. Sales have been deciding but it is forecasted to rise. India's economic growth will decelerate in 2020 but consumer expenditure will grow by 5.9% between 2020 and 2030.

IKEA has teamed up with Indian company Urban Company to provide assembly services. Yet no

additional physical stores have opened but they are planning to open stores in cities with smaller populations. They have online stores in Mumbai, Pune, and Hyderabad. They are planning to open more than twenty-five stores in the future. The expansion into India has challenged IKEA to reduce costs and if they succeed, they will have improved their cost reducing competency.

The population is large and living spaces are small so there is a need for space effective furnishing solutions. According to (Ghosh,2020) the new middle class in India is more conscious of their interior design. With a population of 1.3 billion and a median age of twenty-eight, there is a large market that IKEA has access too. The e-commerce market is also growing rapidly. India can also offer cheap competent labour. There has recently been a corporate tax cut in India.

According to (Ender wick, 2020) challenges in business is trade conflicts, social unrest, viruses, and terrorism. These kinds of issues affect the economy and will, therefore, have an impact on IKEA's success in India. India's economic growth is also set to slow down in 2020 which may impact IKEA's sales. The weakness of the infrastructure is a costly threat to IKEA, as they plan to construct several buildings in the future. They may also be faced with having to provide their own power sources due to this. According to (Goal, 2020) companies have copied IKEA's products. There is also the possibility of changing laws and tax policies which could force IKEA to increase their prices. IKEA has a lot of competitors in India including Pepper fry, Amazon and Wayfair etc. Indian consumers have no experience with DIY and hiring an assembly service increase the cost of their purchase. India has high corruption.

IKEA has faced many challenges in other highly corrupt countries in which they have operated. According to The Economist,2018 the majority of India's large population is poor and cannot afford to purchase what is not essential cheaper local options. Therefore, IKEA India will not be successful, but it depends on how success is measured, if measured according to stakeholders' theory as opposed to profits, IKEA in India is successful due to all the benefits its presence brings to its stakeholders.

DATA ANALYSIS:

The main objective of this project was to know the ethical framework of IKEA. The product and services that available at low prices. Customers plan their shopping in advance because of the distance to the store, the size if the store and wide product assortment. The study also found that social factors along with social activities also have an impact on the customers.

CONCLUSION:

IKEA has a powerful reputation for selling quality products at low prices. The company's ability to produce innovative design concepts and keep prices low provide it with a significant competitive advantage. The organization is highly popular in Europe and the United States. It has also demonstrated a strong tendency toward philanthropy, Innovation, and sustainability. The main reason to choose IKEA is cost management also the size of assortment. IKEA itself has a retail environment is used to enhance customer experience.

They offer a large number of products in diverse designs at low prices.

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A STUDY ON THE ROLE OF E-BANKING DURING THE COVID-19

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ABSTRACT:

The outbreak of the Covid-19 pandemic has wreaked on India's economy on a scale never seen before. The economy was already in a perilous position before Covid-19 struck. We describe the Indian e-banking prior to the implementation of COVID-19, evaluate the shock's likely impact on various segments of the economy. The study also includes data on the impact of Covid19 on the e-banking and what are the different services provided by E-banking during the covid-19.

Keywords: E-banking, covid-19, E-banking services, growth.

INTRODUCTION:

E- Banking is more commonly referred to as internet banking or simply net banking. It is an electronic payment system supported by a website that offers an array of products and services of any bank that is possible to work electronically, like payments, transfers, deposits and more. E-Banking is your personal banking service on the Internet, protected with bank identifiers.

The Effect of COVID-19 on E-banking has the new challenge to many industries and businesses after COVID -19. It is very challenging for many countries, Banks need to build the trust, create the digital and safe environment for digital banks, and make customers aware with the helpful use of it. E-banking reduces a person's bank visits and manual work, along with saving time. 24/7 banking facilities, and smooth mobile banking services by E- banking during the covid-19.

REVIEWE OF LITERATURE:

According to a report (March 30, 2020) by Credit Suisse Group AG analysts led by Ashish Gupta, more than 25%, 35% and 45% of loan book is of most vulnerable sectors to the lockdown, such as small businesses and automobile finance in case of ICICI Bank, Axis Bank, and IndusInd Bank Ltd respectively. Ability to withstand deposit shocks will be key for Private banks for their survival in coming several months.

Vikas Kumar and Sanjeev Kumar (Jan 2021)

Carried out a research study titled "Impact of Covid19 on Indian Economy with Special Reference to Banking Sector: An Indian Perspective" demonstrates overview of the impact of COVID-19 situation on Indian economy and its banking sector and also analyses the various policy measures taken by

Reserve Bank of India and Indian Government at center level and state level to improve the current economic situation of the country.

RESEARCH METHODOLOGY:

Primary Data

The study focused on the role of e-banking during the covid-19. The study focused exclusively on the impact of covid-19 in banking sector. Data was collected by administering a structured questionnaire consisting of dimensions which measured the awareness and use of E-banking services during the covid-19. Non-Probability sampling namely convenient sample has been used in this study. In the current study the sample chosen was 100

Secondary data

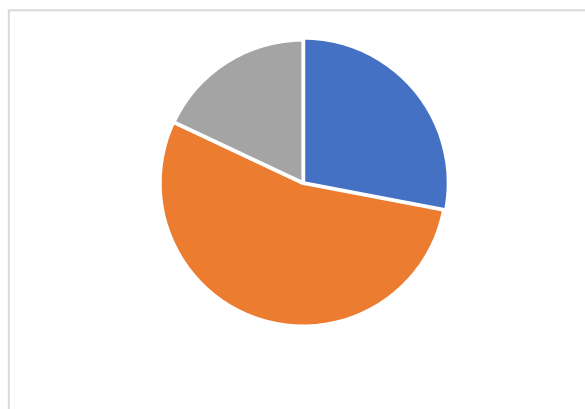
Secondary data are used for purpose of study. Secondary data was collected form websites

DATA ANALYSIS:

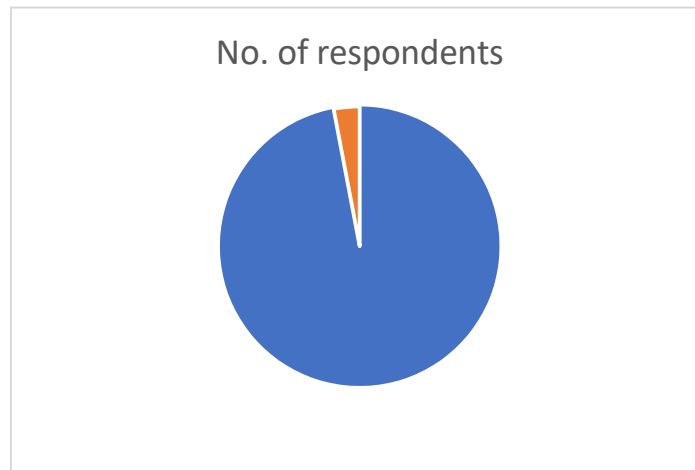
The data of these study is primary and secondary data. The purpose of this study is understanding the role of e-banking during the covid-19. E- banking delivers 24x7 services to customer. Easy access to account information in quick time. Payment can be made online for the purchase of goods and services. The COVID-19 pandemic has accelerated the process of E- banking due to its numerous benefits.

Smartphone usage has resulted in an additional surge in E- banking during the COVID-19 pandemic.

How are feeling about using e-banking services provided by banks during covid-19?



Difficulties in banking transactions during the covid-19?

**FINDING AND SUGGESTIONS:**

The study is all about the role of e-banking during the covid-19. the pie chart is given to show how e-banking performed and helpful during the covid-19. Banks should ensure that e-banking is safe for customers and secure for financial transaction like traditional banking.

CONCLUSION:

In this project I learn about the role of e-banking during the covid-19. And the services provide by e-banking during the covid-19. Similarly, attitude towards online banking have a significant positive impact on intention to use online banking and e-payment during COVID-19 pandemics.

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AMAZON AND NESTLE IN THE LIST OF LEAST ETHICAL GROUP

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ABSTRACT:

Introduction to Business Ethics is a thorough examination of ethical theories and practices, with a concentration on business ethics.

Various aspects of value development, including their interaction with ethics, are covered.

The various aspects of corporate social responsibility and law are discussed, as well as their impact on personal and business ethics. Amazon.com has received criticism from a variety of sources, with the ethics of various corporate practices and policies being called into question.

Child labour, unethical marketing, deceiving illiterate moms, pollution, price manipulation, and mislabeling are not terms you want to be associated with your firm. Nestle is the world's largest food corporation, with a past that would make even the most ardent industrialist shudder.

Nestle is one of the world's most corrupt corporations, engaged in unethical business practices such as taking excellent drinking water from regions that urgently need it, indulging in human trafficking and child labour, and exploiting illiterate mothers in third-world countries. This project identifies numerous ethical issues for Amazon and Nestle, including climate change, environmental reporting, habitats and resources, pollutions and toxins, arms & military supply, human rights, worker's rights, supply chain management, irresponsible marketing, animal rights, animal testing, factory farming, use of controversial technologies, political activities, and anti-social finance.

INTRODUCTION:

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personal and business ethics.

AMAZON:

Our research identifies numerous ethical issues for Amazon, including climate change, environmental reporting, habitats and resources, pollutions and toxins, arms & military supply, human rights, worker's rights, supply chain management, irresponsible marketing, animal rights, animal testing, factory farming, use of controversial technologies, political activities, and anti-social finance.

Amazon.com has received criticism from a variety of sources, with the ethics of various corporate practices and policies being called into question. Amazon has been accused of anti-competitive or monopolistic behavior, as well as of mistreating employees and customers. Concerns have frequently been made about the availability or unavailability of items and services on Amazon platforms, as Amazon.com is regarded as a monopoly owing to its scale.

NESTLE:

Child labour, unethical marketing, deceiving illiterate moms, pollution, price manipulation, and mislabeling are not terms you want to be associated with your firm. Nestle is the world's largest food corporation, with a past that would make even the most ardent industrialist shudder. We'll investigate why Nestle has such a terrible image.

Nestle is one of the world's most corrupt businesses, with unethical business practices such as stealing good drinking water from places that desperately need it, engaging in human trafficking and child labour, and exploiting illiterate moms in third-world nations. Nestle

is the world's largest food and beverage conglomerate? Henri Nestle founded the firm in 1886 after developing a breakthrough infant feeding formula. It then amalgamated with an Anglo-Swiss condensed milk company to establish the Nestle Group. They began manufacturing a wide range of items and grew into an internationally active company.

Their money-hungry appetites grew in unison with the company's expansion. Nestle has been pumping away 200 liters of fresh water from Michigan, according to National Public Radio, water that the residents of Flint badly need. The Flint, Michigan, water crisis has resulted in the deaths of 12 individuals and the hospitalization of 87 more. Bathing causes children to lose their hair, get skin sores, and go blind.

OBJECTIVES:

AMAZON

- Although Amazon has an incredible number of strands to the. business today.
- Amazon is a Global E-Commerce. It is an Internet-based company that sells electronic goods, apparel, movie books and every good that can be sold online on its Platform Amazon.com. Amazon was founded by Jeff Bezos in 1994.
- Amazon has more than 7.5 lakh employees. Amazon is the most valued retail store in the United States by market capitalization.
- Amazon has its marketplace where third parties can sell her products,
- Amazon has Kindle Platform where he sells E-Books, Amazon also has Audible where he sells Audiobooks.
- Amazon has several more Business.

NESTLE

- We would go through one of the oldest and most famous brands of our time is Nestle.
- Nestle is the world's largest and best branded food manufacturer.
- The objective of this report is to study Nestle company's profile and get an overview of its food products and business strategy by retrieving data from reliable sources and conducting a SWOT.
- This study also aims to gather information on how some consumers perceive the company's brand and its products via the information received.

DATA ANALYSIS:

Nestle reported \$99.09 billion in revenue on December 31, 2015, with an expected sale of \$92.62 billion for the current fiscal year. Nestle's market capitalization was \$245.71 billion; however, because the business is domiciled in Switzerland, it is not required to declare its enterprise value in the same way that an American corporation would. Nestle's Advantages

1. Nestle has more than 140 years of business experience.
2. Nestle has a diverse product line that includes infant food, pet food, dairy goods, medicines, drinks, and so on.

Nestle's flaws:

1. As a large worldwide brand, several disputes in various regions of operation generate problems.
2. Due to the high level of competition from other companies, the mark is restricted.

Nestle Opportunities:

1. Introduce more health-conscious food items to capitalize on customer health concerns.

Nestle's company can benefit from a greater emphasis on developing economies.

Amazon's popularity is broad around the world. Globally, it has approximately 310 million active users and 100 million subscriptions. Amazon, the world's top online retailer, has a slew of accomplishments, eye-popping earnings, and successful launches to its name.

Amazon's popularity is widespread around the globe. It has over 310 million active users and 100 million subscribers worldwide. Being the world's leading online retailer, Amazon bags many achievements, eye-popping profits, and successful launches.

Amazon's Strengths:

1. With over \$1 trillion market capitalization and above \$386 billion annual revenues, Amazon is truly a market leader in online retail industry.
2. Minimum pay raise \$15 per hour Amazon is among the first companies in retail to raise its minimum hourly pay to \$15. In comparison, Target pays \$12 per hour, Walmart pays \$11 per hour.

Amazon's Weaknesses:

1. Its Fire Phone's launch in the US was a big failure while its Kindle Fire device didn't even grow well.
2. Tax avoidance in Japan, UK and US have sparked negative publicity for Amazon.

Amazon's Opportunities:

1. Amazon can gain the opportunity to penetrate or expand its operations in developing markets.
2. Launch of electric rickshaws in India Amazon pledges to make a positive impact on the environment.

LITERATURE REVIEW:

Our research highlights many ethical issues for Amazon, including climate change, environmental reporting, habitats & resources, pollutions and toxics, arms & military supply, human rights, worker's rights, supply chain management, irresponsible marketing, animal rights, animal testing, factory farming, use of controversial technologies, political activities, and anti-social finance.

In June 2018 an article in the Seattle Times exposed the poor treatment of some of Amazon's Chinese workers. It described how the Hengyang facility, "uses temporary and contract workers to an extent that violates Chinese law; employee time spent waiting to clock in and out is not compensated; overtime of up to 100 hours a month exceeds legal limits; and wages are well below average for the area, starting at a rate that is "not enough for workers to maintain a decent standard of living."

Amazon receives our worst rating for environmental reporting. When we viewed Amazon's

sustainability report in July 2019, they gave no information on the impacts of its electronic products or textiles used in its clothing so we did not consider Amazon to have demonstrated a reasonable understanding of its main impacts.

Furthermore, in February 2019 when we looked for Amazon's policy on toxic chemicals used in the production of clothing brands we found no information, despite the fact that the manufacture of clothing often releases numerous hazardous substances that negatively impact the environment.

For baby, cleaning, beauty and personal care products, Amazon did release a restricted substance list of chemicals which they stated "all brands should work to phase out and eliminate". However, we saw this as a weak statement, and our expectations of quantified and dated targets for phasing out hazardous chemicals were not met at all. For these reasons, Amazon lost an entire mark under the Pollution and Toxics category.

Nestle aggressively pushed their breastfeeding formula in less economically developed countries (LEDCs), specifically targeting the poor. They made it seem that their infant formula was almost as good as a mother's milk, which is highly unethical for several reasons.

With unethical business practices such as taking clean drinking water in areas that sorely need it, participating in human trafficking and child labour, and exploiting uneducated mothers in third world countries, Nestle is quite possibly one of the world's most corrupt corporations.

Furthermore, why you shouldn't buy Nestle products? It was found that Nestle was polluting water in 830 locations (along with companies like Cadbury), and that pollution limits were breached 2,152 times. Nestle wanted to sell baby formula, breast milk substitutions, to mothers in poor, developing nations. After which, Nestle could sell them formula.

CONCLUSION:

Amazon is an arch tax avoider and is the subject of a global boycott call by Ethical Consumer. Amazon receives our worst rating for environmental reporting. When we viewed Amazon's sustainability report in July 2019, they gave no information on the impacts of its electronic products or textiles used in its clothing so we did not consider Amazon to have demonstrated a reasonable understanding of its main impacts. Amazon receives our worst rating for environmental reporting. When we viewed Amazon's sustainability report in July 2019, they gave no information on the impacts of its electronic products or textiles used in its clothing so we did not consider Amazon to have demonstrated a reasonable understanding of its main impacts.

Our research highlights several ethical issues with Nestlé, including political activities, anti-social finance, likely use of tax avoidance strategies, animal testing, animal rights abuses, a poor approach

to climate change and more.

Since 1988 Nestlé has been the target of a boycott call by Baby Milk Action. The organisation says Nestlé contributes to the unnecessary death and suffering of infants around the world by aggressively marketing baby foods in breach of international marketing standards. Nestlé's own report found 107 instances of noncompliance with its baby milk marketing policy in 2020. When it comes to Climate Change Nestlé lost a whole mark on our rating system because it didn't report its carbon emissions.

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COSTCO “A TESTIMONY TO ETHICAL CAPITALISM”

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ABSTRACT:

Costco is known widely for its wholesale product competitive premium gas prices, and delicious food court offerings but do we know how this come to be.

In 1976, sol Price founded price club in San Diego, California Which was a company that only provide services to business customers in its beginning days. After a few years’ prices saw the future potential of the warehouses club industry and decided to expand its business operations to local companies and individual. In doing so anyone interested in purchasing merchandise from prices club had to purchase an annual membership fee to enter. In 1983 the first Costco warehouse’s location founded by Jim Senegal and Jeffery Bratman opened for business in Seattle the newly established Costco became the first Company in history to reach \$3 Billion dollars in sales with a six-year period.

Costco achievement as a new company made them a company of interest. Walmart CEO Sam Walton was interested in merging with Costco but lost to sol Price club merged and operated under the new Prices costo which had new owned over 200 locations across North America and generated \$ 16 billion in sales annually. In 1994 Prices Left the company and its was renamed Costco Wholesale in 1997 and the remaining Prices clubs warehouses club individual. In doing so anyone interested In Pursuing Merchandises from Prices club had to Purchase an annual membership fee to to enter. In1983 the first Costco become the first company in history to reach \$ 3 billion dollars in sales within a six-year Period.

INTRODUCTION:

Costco is often cited as one of the world’s most ethical companies. It has been called a “testimony to ethical capitalism” in large part due to its company practices and treatment of employees. Costco maintains a company code of ethics which states, “The continued success of our company depends on

how well each of Costco's employees adheres to the high standards mandated by our Code of Ethics... By always choosing to do the right thing, you will build your own self-esteem, increase your chances for success and make Costco more successful, too."

In debates over minimum wage in the United States, many commentators see Costco as an example of how higher wages can yield greater company success, often pointing to competitors such as Walmart and Target as examples that fall short in providing for their employees. Other commentators do not see Costco's model as being easily replicable for different types of businesses, citing wages as only one of many factors to consider in companies' best practices.

Costco tends to pay around 40% more and provides more comprehensive health and retirement benefits than Walmart and Target, saving large amounts in employee turnover costs. The company resists layoffs, invests in training its employees, and grants them substantial autonomy to solve problems. U.S. Secretary of Labor Thomas Perez stated, "And the remarkable loyalty that [employees] have to [Costco cofounder Jim Sinegal] is a function of the fact that he categorically rejects the notion that, 'I either take care of my shareholders or my workers.' That is a false choice."

While few disagree with the benefits of fair treatment of employees, some commentators note employee satisfaction. Columnist and economist Megan McArdle explains, "A typical Costco store has around 4,000 SKUs [stock keeping units], most of which are stacked on pallets so that you can be your own stock boy. A Walmart has 140,000 SKUs, which must be tediously sorted, replaced on shelves, reordered, delivered, and so forth. People tend to radically underestimate the costs imposed by complexity, because the management problems do not simply add up; they multiply." Furthermore, McArdle notes that Costco mainly serves as a grocer rather than department store and caters to a generally affluent customer base in suburban areas.

DEVELOPING CORPORATE VALUES:

Senegal's education in business started in 1954, when he worked at the discount chain Fed Mart as a bagger to help pay for his education at San Diego State University. He soon left college to rise the ranks at Fed-Mart, eventually working under Sol Price, Fed-Mart's founder, and a retail pioneer, for thirty years. Price impressed upon Sinegal the importance of trust in customer relationships—a part of the reason Sinegal insists on Costco's disciplined margins,

honest prices, and great value. Under Price, Sinegal developed his business philosophy: “We have to obey the law, we've got to take care of our customers, take care of our people, and respect our suppliers. We think if we do those four things, pretty much in that order, that we're going to do what we must do in the long term, which is to reward our shareholders.” Senegal’s thinking dovetails with University of Virginia Professor R. Edward Freeman’s concept of stakeholder theory: that businesses should create value for stakeholders (those beyond the central financial shareholders), i.e., those affected by the business, including employees, communities, suppliers, and other actors. As Sinegal puts it, “Our view is that you can reward the shareholders in a short term by not paying attention to one of those aspects, but you can’t do it in a long term... You are either going to have labor problems, or you are going to break the law, or your customers are going to be turned off, or the suppliers are not going to want to do any business with you.” He adds, “Sooner or later you are going to stumble very badly.” Sinegal hopes to build an organization that will be around in fifty years, and that means Costco has obligations to all stakeholders—suppliers, employees, the community, and customers. A key part of Costco’s business model, Sinegal says, is its investment in its employees as the critical piece of serving its customers. “We count on very significant productivity,” he says. “We pay high wages and have a very healthy benefit plan. Of every dollar that we spend on our business, \$0.70 is on people.” In her research on retail supply chain and store operations management, Zeynep Ton, an adjunct assistant professor at the MIT Sloan School of Management and the author of *The Good Jobs Strategy*, found that some retail companies often view employees as a cost to be minimized by way of poor pay and limited training. She found that this perspective depressed morale and consequently reduced the quality of customer service, ultimately negatively impacting the bottom line.

A FOCUS ON EMPLOYEES AND CULTURE:

Costco’s focus on its employees, on the other hand, is a clear example of what Ton calls the “good jobs strategy” of investing in employees to boost bottom-line profits. Nearly 90% of Costco’s employees receive healthcare and benefits, despite half its staff being employed part-time. A 2013 *Businessweek* story cited an average hourly worker pay of more than \$20 an hour excluding overtime, which works out to nearly \$43,000 a year, assuming 40-hour workweeks. This is three times the U.S. minimum wage of \$7.25 and is almost double the national average retail staff pay of \$25,000 annually. It is no surprise, therefore, that Costco’s turnover is a mere 5% per year for employees who have worked for Costco for over one year—compared to the national average of 67% in part time retail employees,

according to a 2012 study by the global management consulting firm Hay Group. Sinegal describes this investment in its people as Costco's "most significant expense item," and the item that is key to Costco's high volume and high revenues on low margin, high value products. The strength of Costco's employee relationships is not simply limited to pay and benefits: Costco has also proven its commitment to its employees in times of crisis. In one example cited in Simon Sinek's book *Leaders Eat Last*, when the 2009 U.S. economic crisis caused sales to drop by 27 percent, Sinegal introduced a \$1.50- an-hour wage increase for many hourly employees, spread out over three years, to help employees weather the U.S. economic crisis in 2009. Sinek writes that Sinegal told Costco CFO Richard Galanti that workers needed help during a recession, not the opposite. As Sinek explains in his book, layoffs are a last resort at Costco, rather than a routine strategy. In another example, Sinek describes Senegal's 2005 refusal to pass on additional healthcare costs to consumers, leading to Sanford C. Bernstein & Co. analyst Emme Kozloff to criticize Sinegal for being "too benevolent". Yet studies have shown that this benevolence is often the very quality that can build a strong, trusting relationship between the employees and employer. In one Stanford University survey of 800 MBA graduates from eleven European and North American business schools, researchers found that the graduates said they would be more committed to organizations with a "benevolent climate" that prioritizes employee and community welfare. In line with Senegal's insistence on the importance of engaged employees in satisfying customers, Sinek notes that "customers will never love a company unless the employees love it first...It is usually the people at the edges, the infantry, so to speak, who are the most vulnerable to external dangers. They are also the ones who tend to have the most contact with clients and customers. If they feel protected, then they will do all they can to serve the customers without fear of repercussions from the company's leaders". A study on the value of corporate culture by Luigi Guiso, Paola Sapienza, and Luigi Zingales advances Sinek's point: the authors concluded that "high levels of perceived integrity are positively correlated with good outcomes, in terms of higher productivity, profitability, better industrial relations, and higher level of attractiveness to prospective job applicants". Sinek also adds that Costco promotes employees internally, allowing longtime employees to have the opportunity to rise to executive positions. Sinek cited a Bloomberg Businessweek piece claiming that over two thirds of Costco's warehouse managers started out as cashiers and other hourly-pay roles. Sinek writes, "whereas people go to work for Walmart because they want a job, people go to work at Costco because they want a future and a sense of belonging as a team."

Why Ethics Pays: “It’s Just Good Business”:

Senegal’s business approach shows that being humane and ethical can also be profitable. A grounded businessman among overpaid chief executives, Sinegal earns a salary and bonus that is only twice that of a Costco store manager’s compensation. His CEO employment contract was singularly short: one page long, and the only contract which specified that Sinegal could be ‘terminated for cause,’ according to Nell Minow, editor and founder of the Corporate Library and an expert on corporate governance. Another aspect of Costco’s corporate ethic is its disciplined margins and fair value. One Huffington Post article titled, “11 Reasons to Love Costco That Have Nothing to Do with Shopping” cited stock analyst research that described Costco’s 15% margins as compared to the 25% markup that most supermarkets and department stores use as standard. Costco’s legendary stubbornness about prices and margins can seem excessive, but the results are impressive. Its hot dog and drink combo, for example, has famously stayed priced at \$1.50 since the mid-1980s. The dependable price both drives traffic into stores and allows Costco to sell four times the number of hot dogs sold at all Major League Baseball stadiums in total each year. While some on Wall Street have complained about low earnings on the dollar, Sinegal responds that it’s just good business. "You get what you pay for. We try to give a message of quality in everything that we do, and we think that that starts with the people." This has certainly, translated into business success: as America’s second largest retailer and the seventh largest retailer in the world, Costco has revenues of over \$110 billion and operates nearly 700 warehouses and stores, while earning a reputation as a fair and progressive employer. Others on Wall Street recognize Senegal’s genius: in an interview with The Motley Fool, Berkshire Hathaway’s Vice Chairman Charles Munger responded to a question about his favorite company outside of Berkshire: “That’s easy. It’s Costco. It’s one of the most admirable capitalistic institutions in the world. And its CEO, Jim Sinegal, is one of the most admirable retailers to ever live on this planet.” Munger noted, “When other companies find ways to save money, they turn it into profit. Sinegal passes it on to customers. He’s sacrificing short- term profits for long-term success.” Asked about the source of his approach to business, Sinegal cites the values and integrity that he learned from Sol Price. Sinegal confides that his biggest concern is maintaining the discipline to hold those values: “I worry that we don’t lose sight of what it is that got us to where we are and continue to keep the same values.” Those values have served Costco, and its investors and stakeholders, well.

What do Costco's Mission Statement and Code of Ethics have to do with you?

The continued success of our company depends on how well each of Costco's employees adheres to the high standards mandated by our Code of Ethics. And a successful company means increased opportunities for success and advancement for each of you. No matter what your current job, you can put Costco's Code of Ethics to work every day. It's reflected in the energy and enthusiasm you bring to work, in the relationships you build with your management, your co-workers, your vendors and your members. By always choosing to do the right thing, you will build your own self-esteem, increase your chances for success and make Costco more successful, too. It is the synergy of ideas and talents, each of us working together and contributing our best, which makes Costco the great company it is today and lays the groundwork for what we will be tomorrow.

Career Opportunities at Costco:

Costco is committed to promoting from within the company. The majority of our current management team members (including Warehouse, Merchandise, Administrative, Membership, Front End and Receiving Managers) are "home grown." * Our growth plans remain very aggressive and our need for qualified, experienced employees to fill supervisory and management positions remains great. * Today we have Warehouse Managers and Vice Presidents who were once Stockers and Callers or who started in clerical positions for Costco. We believe that Costco's future executive officers are currently working in our warehouses, depots and buying offices, as well as in our Home Office.

Organizational Cultures & Ethical Value:

The Organizational culture in Costco maintain its forces on excellence in performance. The company believes that good enough is not enough is not enough. This aspect of their organizational cultures allows Costco to push its employees further to achieve high quality services to safety customers. Efficiency is also included in Costco's organizational culture allows. Through the employee's high energy and fast motivation to maintain optimal productivity. This characteristic also contributes to the energetic buzz that help satisfy customers based on the speed and efficiency services.

Service orientation is a typical feature in the organizational culture of retails firm like services but Costco. The emphasis on services helps align workers to the business goal of providing effective retails services but Costco facilities use work teams. This Characteristics of the company Organizational culture maximizes performances by utilizing the synergy of teams. Through teamwork employees achieve the flexibility that enables Costco to address variation in customer preferences.

Costco is often cited as one of the world most ethical companies. It has been called a testimony company. It has been called a testimony to ethical companies. It has been called a testimony to ethical capitalism in large part due to its company practices and treatment of employees. Costco maintain a company code of ethics which states. The continued success of our company depends on how well each of Costco employees adheres to high standard mandatory by our codes of ethics. By always choosing to do the right things they build self-esteem increase chances for successful. Former U.S. secretary of labour Thomas Perez stated and the remarkable loyalty that employees have to Costco is a function of the fact that they categorically reject the notion that I either take care of my shareholder or my workers.

INNOVATION & CHANGE:

Costco innovation comes in the form of a global distributor. The company identified their source of profit in membership sales instead of product sales. Its pricing strategy is designed to give the most benefits to Costco member instead of setting consumer prices solely to increase Profit margins are smaller than its competitors but gain more from its members. usually, this type of thinking is seemed more in the shipping or logistics industry. With Costco banking \$ 1600 per square foot, it dominates even Walmart with its warehouses style stores that most try to emulate.

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THE STUDY ON TVS GROUP ADHERING TO BEST ETHICAL CORPORATE GOVERNANCE PRACTICES**Darshan Duggad**

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Guide

Vidyalankar school of
information technology**ABSTRACT:**

Corporate governance is the system of rules, practices, and processes by which a firm is directed and controlled. Corporate governance essentially involves balancing the interests of a company's many stakeholders, such as shareholders, senior management executives, customers, suppliers, financiers, the government, and the community.

Since corporate governance also provides the framework for attaining a company's objectives, it encompasses practically every sphere of management, from action plans and internal controls to performance measurement and corporate disclosure.

Governance refers specifically to the set of rules, controls, policies, and resolutions put in place to dictate corporate behaviour. Proxy advisors and shareholders are important stakeholders who indirectly affect governance, but these are not examples of governance itself. The board of directors is pivotal in governance, and it can have major ramifications for equity valuation.

A company's corporate governance is important to investors since it shows a company's direction and business integrity. Good corporate governance helps companies build trust with investors and the community. As a result, corporate governance helps promote financial viability by creating a long-term investment opportunity for market participants.

KEYWORDS: Ethical, corporate governance, TVS, organization, practices & company.

INTRODUCTION:

TVS Group is an Indian multinational conglomerate with its principal headquarters in Madurai and international headquarters in Chennai. It has more than 50 subsidiaries including the two-wheeler manufacturer TVS Motor Company and TVS Supply Chain Solutions.

TVS in line with TVS Group philosophy, truly believes in Independence, responsibility, transparency,

professionalism, accountability and code of ethics, which are the basic tenets of corporate governance. TVS always seeks to achieve optimum performance at all levels in adopting and adhering to best corporate governance practices. TVS has always focused on corporate governance as a means to maximize long-term stakeholders' value through disciplined and sustained growth and value creation.

The board of directors (the board) has adopted a code of business conduct and ethics (the code) for all board members and senior management personnel viz., personnel who are members of TVS core management team, all members of management one level below. The chief executive officer/managing director/whole-time director/manager (including chief executive officer/manager, in case they are not part of the board), Company Secretary and Chief Financial Officers.

Corporate governance is concerned with holding the balance between economic and social goals and between individual and communal goals. The governance framework is there to encourage the efficient use of resources and equally to require accountability for the stewardship of those resources. The aim is to align as nearly as possible the interests of individuals, corporations and society.

Business ethics is too often conceived as a set of impositions and constraints, obstacles to business behaviour rather than the motivating force of that behaviour ... properly understood, ethics does not and should not consist of a set of prohibitive principles or rules, and it is the virtue of an ethics of virtue to be rather an intrinsic part and the driving force of a successful life well lived. Its motivation need not depend on elaborate sul-searching and deliberation but in the best companies moves along with the easy flow of interpersonal relations and a mutual sense of mission and accomplishment.

NEED OF ETHICAL CORPORATE GOVERNANCE PRACTICES:

Corporate governance is important because it creates a system of rules and practices that determine how a company operates and how it aligns the interest of all its stakeholders. Good corporate governance leads to ethical business practices, which leads to financial viability.

OBJECTIVE OF CORPORATE GOVERNANCE:

- To help build an environment of trust, transparency and accountability necessary for fostering long-term investment, financial stability and business integrity, thereby supporting stronger growth and more inclusive societies.
- To create social responsibility.

- To create a management accountable for corporate functioning.
- To develop an efficient organization culture.
- To protect and promote the interest of shareholders.

PILLARS OF GOOD CORPORATE GOVERNANCE:

- Transparency of corporate operations.
- Accountability towards shareholders.
- Fairness in dealing.

THE TVS GROUPS:

TVS Group Companies was established in 1911, thanks to the ambitious dreams of the founding father, T V Sundaram Iyengar, who refused to settle managing smaller businesses like bus fleet operations or vehicle servicing.

He wanted to build a business that would create a family of like-minded individuals pursuing only the best in quality and standards. And he made his dreams a reality.

- Total Group Revenue: Rs 59400 Cr
- Number of Companies under TVS Group: More than 90 Companies

The success of the TVS group is rooted in their founder's personal belief system – a commitment to the values of trust and customer service. Although the company is named after the founder, the letters TVS have always stood for Trust, Value, and Service within the company.

This remains the guiding, overarching philosophy by which the group functions. It was only natural that success and market leadership followed.

Today, the TVS Group is one of India's leading suppliers of automotive components, with over 90 Companies under its umbrella and a revenue of around INR. 59400 Cr in 2017-18. The first four companies in India to have won the coveted Deming Prize are from the TVS Group.

TVS Motor Company – The third largest 2-wheeler manufacturer in India. TVS Motor Company is the third largest 2-wheeler company in India with a revenue of over ₹18,217 crores (over US\$2.9 billion).

TVS Motor has footprints globally, including geographies like Middle East, Africa, SE Asia, Indian subcontinent, Latin & Central America.

- Total Sales: ₹18,217 crores (over US\$2.9 billion)

- Annual Production Capacity: over 4.95 million vehicles

It has an annual sale of more than 3 million units and an annual capacity of over 4.95 million vehicles. TVS Motor is also the 2nd largest exporter in India with exports to over 60 Countries. A member of the TVS Group, it is the largest company of the group in terms of size and turnover.

TVS Motor manufactures the largest range of 2-wheelers, starting from mopeds, to scooters, commuter motorcycles, to racing inspired bikes like the Apache series and the RR310.

The company has four manufacturing plants, three located in India (Hosur in Tamil Nadu, Mysore in Karnataka and Nalagarh in Himachal Pradesh) and one in Indonesia at Karawang.

COMPANY VISION:

“We are committed to being a highly profitable, socially responsible, and leading manufacturer of high value for money, environmentally friendly, lifetime personal transportation products under the TVS brand, for customers predominantly in Asian markets and to provide fulfillment and prosperity for employees, dealers, and suppliers.” – TVS GROUPS.

TVS Motor Company, a leading manufacturer of personal transportation products firmly believe in the integration of Environment, Occupational Health and Safety aspects with all business activities and ensure the well-being of employees and society.

They are committed to:

- Set and continually improve the performance standards in all aspects of EHS including compliance with legal and other requirements.
- Prevent pollution due to emission, effluents and wastes and contribute to conservation of resources.
- Contribute in combating climate change by improving energy efficiency and use of renewable energy
- Continue to connect with nature and ensure the protection of natural habitats.
- Provide safe work environment, prevent injury and ill health at the work place.
- Involve employees in driving the improvement of environment, occupational health and safety.
- Provide education, training and counselling to employees. Support suppliers, dealers and contractors in adopting sound EHS practices.

COMPANY'S PHILOSOPHY ON CODE OF GOVERNANCE:

As a TVS Group Company, the Company has a strong legacy of fair, transparent, and ethical governance practices. The Company's philosophy on corporate governance is founded on the fundamental ideologies of the group viz., Trust, Value and Service.

The Company believes in ensuring corporate fairness, transparency, professionalism, accountability, and propriety in total functioning of the Company, which are pre-requisites for attaining sustainable growth in this competitive corporate world. Obeying the law, both in letter and in spirit, is the foundation on which the Company's ethical standards are built. The company would constantly endeavor to improve on these aspects.

The Company ensures good governance through the implementation of effective policies and procedures, which is mandated and reviewed by the board of the committees of the members of the Board.

TVS Groups always seeks to achieve optimum performance at all Levels in adopting and adhering to best corporate governance practices. TVS Groups has always focused on corporate governance as a means to maximize long-term stakeholders' value through disciplined and sustained growth and value creation.

CODE:

This code of business conduct and ethics helps to ensure compliance with legal requirements and standards of business conduct.

The board of directors (the board) has adopted a code of business conduct and ethics (the code) for all board members and senior management personnel viz., all members of management one level below executive directors, including all functional heads. Every board member and senior management personnel is expected to read and understand this Code and its application to the performance of his or her duties, functions and responsibilities.

COMPLIANCE OFFICER:

Company secretary is the compliance officer for the purpose of this code. The compliance officer shall refer to the chairman of the board any complaint received for necessary action.

HONESTY, INTEGRITY & PROFESSIONAL CONDUCT:

All board members and senior management personnel shall:

- Conduct their activities, on behalf of TVS and on their personal behalf, with honesty, integrity and fairness and uphold ethical standards of integrity and probity.

- Act in good faith, responsibility, with due care, competence and diligence, without allowing their independent judgement to be subordinated and objectively and constructively, while exercising his / her duties.
- Act in the best interest of TVS, its various stakeholders including TVS shareholders and fulfil the fiduciary obligations and exercise his responsibilities in a bona fide manner in the interests of TVS.
- devote sufficient time and attention to his / her professional obligations for informed and balanced decision making.
- Not engage in conduct that is likely to bring discredit upon TVS. • not use his position to the detriment of TVS or its shareholders or for the purpose of gaining direct or indirect personal advantage or advantage for any associated person.
- not allow any extraneous considerations that will vitiate his exercise of objective judgments in the paramount interest of TVS as a whole, while concurring in or dissenting from the collective judgment of the Board in its decision making.
- Comply with every provision of this Code and assist TVS in implementing the best corporate governance practices.

FAIR DEALING:

All board members and senior management personnel should deal fairly with TVS Customers, suppliers, competitors, officers and employees. No board member or senior management personnel may take unfair advantage of TVS customers, suppliers, competitors or employees through manipulating, Concealment, abuse of privileged information, misrepresentation of material facts or any other unfair dealing practice. Gift or entertainment in any form that is likely to result in a feeling of expectation of personal obligation should not be accepted or extended.

CORPORATE OPPORTUNITIES:

All board members and senior management personnel shall not exploit for their own Personal gain opportunities that are discovered through the use of TVS property, Information or position unless the opportunity is disclosed fully in writing to the board and the board gives its approval to pursue such opportunity.

SEXUAL HARRASMENT:

The board and senior management personnel shall not indulge in sexual harassment whether directly or by implication which includes such unwelcome behaviour or physical contact and advances, or a

demand or request for sexual favors, sexually colored remarks, display of pornographic material or any other verbal or nonverbal communication of sexual nature is strictly prohibited.

CONFIDENTIAL INFORMATION:

All board members and senior management personnel shall maintain confidentiality of Information (price sensitive or otherwise) they receive while being in office of TVS and they may also ensure security of information of TVS. They will also ensure that the interests of any employee who uses the vigil mechanism to report genuine concerns about unethical behaviour, are not prejudicially affected on account of such use and shall maintain confidentiality of all matters under their policy.

PROTECTION OF ASSEST:

The board and senior management personnel shall endeavor their best to protect TVS assets and shall not use the same for personal benefit, unless approved by the board.

REGULATION:

All board members and senior management personnel shall comply with all applicable

Laws, rules, regulations and guidelines, including obligations under take-over and Insider trading regulations and shall report actual non-compliances, if any, of law, this Code, or other TVS policies or procedures to the board.

As a public company, it is of critical importance that TVS filings with the Securities And Exchange Board of India, the Reserve Bank of India and/or the concerned stock Exchange (s) on which the securities of TVS are or may be listed be full, fair, Accurate, timely and understandable.

All board members and senior management personnel may be requested to provide Information necessary to ensure that TVS published reports meet these Requirements.

TVS expects all board members and senior management personnel to provide Prompt and accurate answer to enquiries relating to its public disclosure Requirements.

TVS Motor has a well-defined Code of Conduct (CoC) for its employees. All employees are provided a hard Copy of the CoC during induction / training. The CoC is intended to guide the employees in treatment of one Another, as well as their interaction with customers, suppliers, partners, public officials and other stakeholders.

The principles laid down under the CoC are implemented effectively to drive ethical behaviour at all levels. The Company ensures compliance of ethical standards by its vendors and contractors through appropriate clauses in its work contracts to which they are obligated. All suppliers working closely

with employees are expected, in their contracts, to understand and comply with this policy.

TVS is committed to transparency in its financial reporting. TVS cooperates fully with its auditors and under no circumstances withholds information from them. A robust system for financial controls and processes is maintained to ensure the accuracy and timeliness of financial reporting.

The Company has mapped its internal and external stakeholders in a structured way and carries out engagements with investors, employees, customers, suppliers, government, regulatory authorities, trade union and local community. The Company follows a system of timely feedback and response through formal and informal channels of communication to ensure that the stakeholder information remains current and updated.

CONCLUSION:

The Company acts with integrity in accordance with its core principles of Trust, Value and Service. TVS has adopted a separate Code of Business Conduct and Ethics which specifically pertains to the Company's directors and senior management personnel one level below the board, including all the functional heads.

TVS Motor goes beyond its business activities to create social impact through its diverse initiatives and is working towards improving lives of India's marginalized and vulnerable communities.

TVS has taken initiatives under CSR focusing on key areas of Economic Development, Health, Education, Infrastructure, Environment and Social & Cultural Development.

TVS continuously strives to achieve total inclusiveness by encouraging people from all sections of the community irrespective of caste, creed or religion to benefit from its CSR initiatives which would also be focused on communities that reside in the proximity of the Company's various manufacturing locations in the country.

Corporate governance is the system by which companies are directed and controlled. Boards of directors are responsible for the governance of their companies. The shareholders' role in governance is to appoint the directors and the auditors and to satisfy themselves that an appropriate governance structure is in place.

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On EMERGING TRENDS AND ADOPTION OF DIFFERENT SECTORS OF ECONOMY TO CHANGING ENVIRONMENT



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with Special Reference to Century Textiles & Industries LTD.
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A STUDY ON EFFECT OF COTTON PRICE FLUCTUATIONS ON THE PROFITABILITY OF TEXTILE INDUSTRY WITH SPECIAL REFERENCE TO CENTURY TEXTILES & INDUSTRIES LTD.

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Abstract

This paper focuses on the impact of fluctuations in the price of cotton as a raw material on the textile industry with special reference to Century Textiles & Industries Ltd. Even though there is an increase in the revenue of the company, the total cost has been increasing simultaneously. The textile industries are facing a problem of declining profits. Cotton being the raw material of these textile industries is a seasonal product. Production of cotton is highly fluctuating due to high seasonal fluctuations.



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Introduction

The Indian textile industry is one of the oldest industries having evolved from a domestic small-scale industry to one of the largest industries in the world with an extensive manufacturing base. It is one of the most important sectors of the Indian economy in terms of output, foreign exchange earnings and employment. Maharashtra ranks second in the production of cotton in India. It is the important cash crop in the state. Nearly three million farmers are mostly busy in the cultivation of cotton in backward Marathwada and Vidarbha region. Maharashtra state accounts 20% of the country's total cotton production and 30% of the country's total area under cotton cultivation.

Century Textiles and Industries Limited is into the business of textiles, rayon, cement, and pulp and paper. The segments of the company include Textiles, which includes yarn, cloth and

denim cloth, viscose filament yarn and tire yarn; Pulp and Paper, which includes pulp, writing and printing paper, tissue paper and multilayer packaging board; Cement, which includes cement and clinker; Real Estate, which includes leased properties, and Others, which includes salt works, chemicals and floriculture.

Century Textiles and Industries Limited (CTIL), was incorporated in Mumbai, India, in the year 1897. Birla Century which is an important division of CTIL was set up at Jhagadia, Bharuch, Gujarat, with an investment of about US\$ 180 million (Rs. 850 Crore) in the year 2009.

The company is spread over an area of 43.56 million Sq.Ft. (100 Acres). It uses the best modern machinery to produce a variety of premium textiles — from Bottom weights & Suitings to Finer fabrics, household linen etc. Innovative products of the company include wrinkle-free, easy care, anti-bacterial etc, which are imparted to fabrics through world-class automated processing with eco-friendly and non-toxic dyes and chemicals.

The plant has world-class mechanical and chemical laboratories to test fabrics as per international norms and equipped with a pilot sampling facility for quick development of samples. Its Research & Development centre has a Design Studio for continuous innovations in designs and weaves in tune with the latest international trends.

Birla Century's USP is the customization they offer to their clients in terms of the weave, design and texture of products. They have an extensive network of distributors and dealers in India and also sell the exclusive range of home-textiles and other products in the global market.

Review of Literature

Kalyan Chakroborty, Darren Hudson, Don Ethridge, Sukat Misra and Gyana Kar (1999) in their research paper titled, “An overview of Cotton and Textile Industries in India” noted that India is one of the largest producers in the world but has played a minor role in the world cotton trade. Cotton based garments dominate India's cotton exports.

D' Monte (2005) in his book “Ripping the Fabric: The Decline of Mumbai and its Mills” has mentioned that the decline of cotton mills in Mumbai, the industrial, commercial and financial capital of India, and the potential redevelopment of the land they occupy in the heart of the city, has become a major urban policy issue. It raises vital questions about the future growth of this metropolis

Vijaya Switha Grandhi and Alec Crawford (2006) through the research paper titled "Price Volatility in the Cotton Yarn Industry: Lessons from India" have highlighted the problem of fluctuations in the price of cotton. This paper discusses the impacts of cotton yarn price volatility on handloom weavers, and the public and private interventions that have been employed to address them

Dr. E. Muthukumar and Nisha.K.G (2014) in their research paper titled "A Study on the Effect of Material Price Fluctuations on the Profitability of Yarn Industry in India" focused on the effect in profitability of yarn producers when the prices of cotton are fluctuating. Even though there is an increase in the sales volume and reduction in the cost, Yarn producers facing the risk of maintaining the profitability margin.

Ashwini Darekar and A Amarender Reddy (2017) through their research paper titled "Cotton Price Forecasting in Major Producing Statesma." attempted to forecast the cotton prices which is beneficial for the farmers as well as the millers who purchase cotton. According to this paper, the Indian textile industry has an awesome existence in the Indian economy. The study aimed to forecast the prices of cotton of major producing states of India.

Research Problem

This paper focuses on the problem of fluctuations in cotton price and its effect on the profitability of the textile industries with special reference to Century Textiles and Industries Ltd. The fluctuations in cotton price will vary the yarn price in turn the textile industries are facing the hard competition in the domestic as well as international market. So, these price fluctuations will adversely affect their profitability margin.

Objectives

1. To study the financial performance of Century Textiles & Industries Ltd
2. To study the relationship between Profitability and sales.
3. To analyze the influence of price fluctuations in the Profitability of Century Textiles & Industries Ltd

Methodology

Period of the Study

Period of study is five years from 2016-2017 to 2020-2021

Source of Data

Secondary Data is used for the study

Secondary data is collected from Annual Reports of company through its Website, Newspapers and Journals

Data Analysis and Interpretation:

Data analysis and interpretation is the process of assigning meaning to the collected information and determining the conclusions, significance, and implications of the findings.

Ratio analysis is an important tool for examining the health of a company by studying the relationships of key financial variables.

The cost of raw cotton is a single largest cost factor for the manufacturing in spinning and composite mills. This industry is facing the problem of getting supply of raw cotton at reasonable prices and in superior quality. The high prices of raw cotton turn into rising cost of production.

1. Table showing the increasing price of cotton per kilogram for the past five years

Year	Price of Cotton per kg (in Rs)
2017	125.9
2018	131.97
2019	128.54
2020	120.75
2021	147.04



From the above table and graph it can be inferred that there has been fluctuations in the prices of cotton per kilogram from 2017 to 2021

2. Table showing the Sales and Net Profit for the Past five years

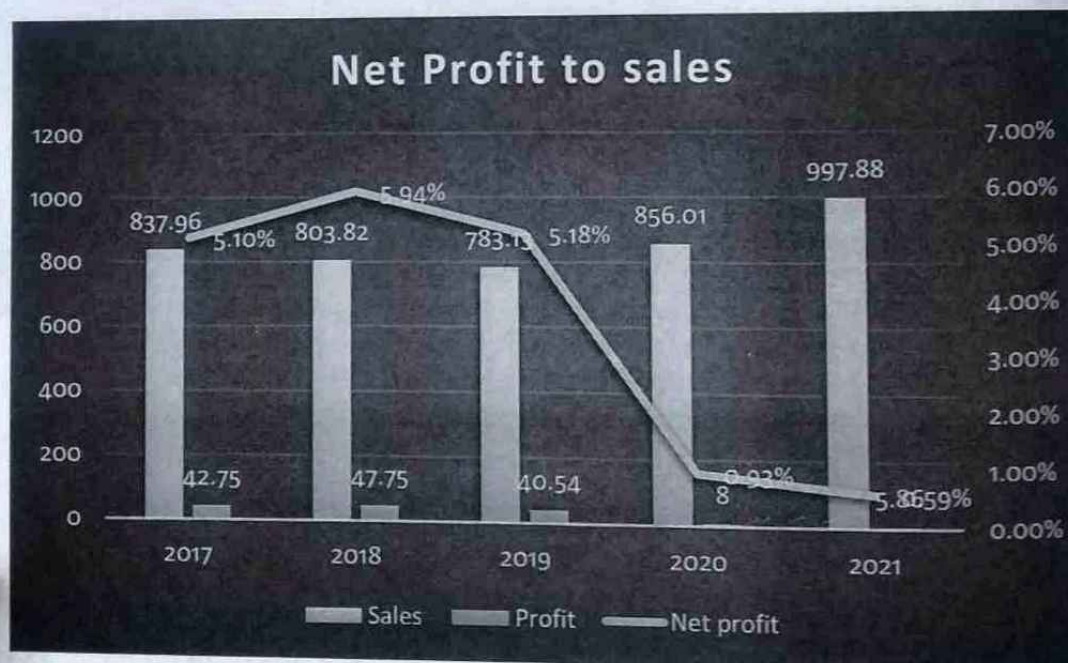
Net profit ratio = $\frac{\text{Net profit}}{\text{Net sales}} \times 100$,

this ratio measures the overall profitability of the firm.

The ideal net profit ratio is 5% to 10%.

(Rs. In crores)

Year	Sales	Profit	Net profit
2017	837.96	42.75	5.10%
2018	803.82	47.75	5.94%
2019	783.13	40.54	5.18%
2020	856.01	8	0.93%
2021	997.88	5.86	0.59%



Inference: From the above table and graph it is clear that company shows a fluctuating but increasing trend in sales, but the company's net profit margin shows a decreasing trend. Increasing trend in sales is not influencing the profitability of the company proportionately.

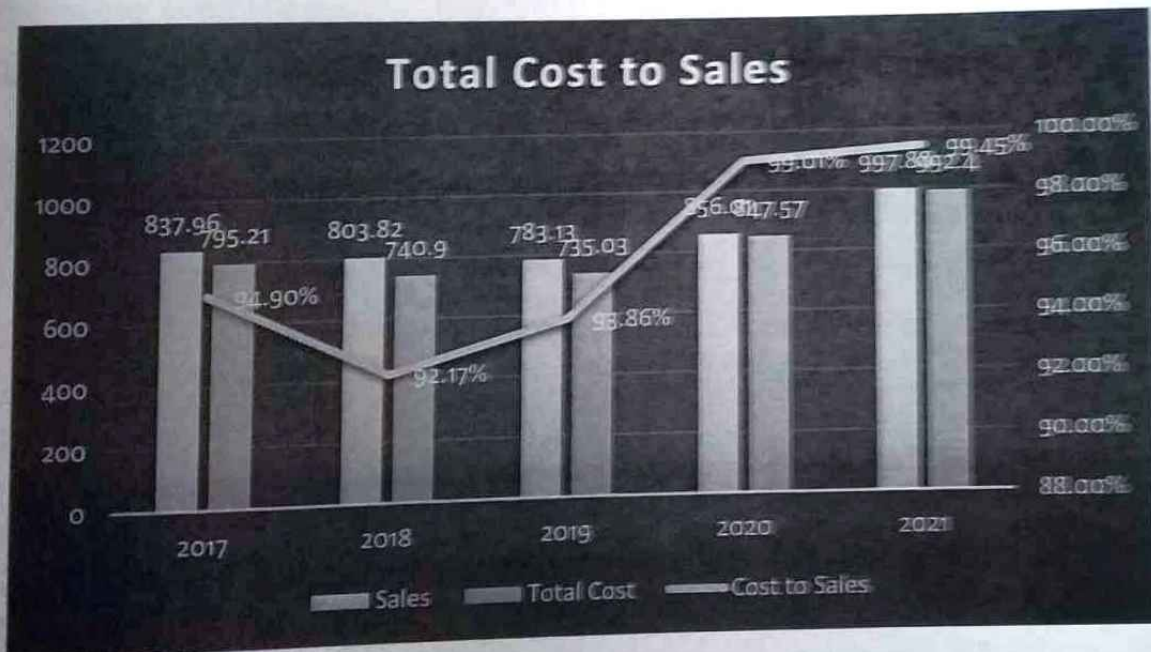
3. Table showing the Sales and Total cost for the five years

The cost-to-sales ratio measures operation efficiency by comparing operating costs as a proportion of the total revenue.

$$\text{Cost to sales ratio} = (\text{total cost} / \text{sales}) * 100$$

(Rs. In crores)

Year	Sales	Total Cost	Cost to Sales
2017	837.96	795.21	94.90%
2018	803.82	740.9	92.17%
2019	783.13	735.03	93.86%
2020	856.01	847.57	99.01%
2021	997.88	992.4	99.45%



Inference: Sales are increasing every year, simultaneously cost is also increasing year by year, so company couldn't attain any high profit margin even though the company shows an increasing trend in sales. In the year 2020 company shows high cost and in the year 2021 company shows highest cost while compared to previous years.

4. Table showing the material cost and other cost to Total cost

Total cost = Material cost + other cost

Material cost to total cost is to find out the proportion of material cost in total cost

Material cost to total cost = (material cost/Total cost) *100

Other cost to total cost ratio is to find out the proportion of cost other than material from total cost

Other cost to total cost = (other cost/ total cost) *100

(Rs. In crores)

Year	Total Cost	Material cost	Material Cost to Total Cost Ratio	Other Cost	Other Cost to Total Cost Ratio
2017	795.21	445.32	56.00%	349.89	44.00%
2018	740.9	432.06	58.32%	308.84	41.68%
2019	735.03	433.67	59.00%	301.36	41.00%
2020	847.57	522.10	61.60%	325.47	38.40%
2021	992.4	595.44	60.00%	396.96	40.00%



Inference: The major element of Total cost is material cost, so any fluctuations in material cost will affect the total cost and ultimately the profit margin. Trend line of total cost is similar

to that of material cost. With the increase in material cost, there is a corresponding increase in the total cost. Other cost has also increased but in less proportion as compared to material cost and total cost.

Findings

1. From the above data, it is clear that there is an increasing trend in sales of the company, but its net profit margin is fluctuating showing a decreasing trend.
2. In the year 2019 and 2020 the company's profits have fallen drastically from 5.18% in 2019 to 0.93% in 2020 and finally to 0.59% in 2021.
3. Increasing trend in sales is not influencing the profitability of the company.
4. In the year 2021 the company has witnessed the least profit as compared to the previous five years.
5. Even though the company shows an increasing sales trend, Company was unable to maintain an increasing trend in its profit margin.
6. Sales are increasing year by year correspondingly cost is also increasing year by year, so company cannot attain any high profit margin even though the company shows an increasing trend in sales.
7. In the year 2021 company shows highest cost corresponding to the increased material cost which is due to the increase in the price of cotton in the domestic markets.
8. Major element in the Total cost is material cost, so any changes in the price of material will affect the total cost and profit margin. Trend line of total cost is similar to that of material cost.

Conclusion

1. In a today's competitive global market conditions, doing business is a big challenge. And these challenges can be met by taking informed decision. On analyzing the overall scenario of Century Textiles & Industries Ltd in India, it can be said that the price of raw materials is key factor affecting the total cost of the product.
2. So, any changes in the price of raw material will affect the profitability of the product.
3. As the textile industries are facing the hard competition in Domestic as well as International market it is advisable to have a separate data warehouse and data mining department for updating the information with regards to the latest trends in the economy and market.

4. Cotton textile Industry is one of the privileged industries of Indian economy, so the companies under such industry should be protected and guided.

Suggestions

1. The company should take necessary measures to withstand the uncertain contingencies in the global economy.
2. There should be an increase in the level of awareness on the part of company about domestic and international market cotton pricing policies.
3. Effective cost minimization techniques should be adopted to control the production cost.
4. Cost of Material should be minimized by adopting proper procedure techniques.

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AN OVERVIEW OF DIGITAL PAYMENTS SYSTEM

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ABSTRACT:

In this projects we will see how digital payments is growing up and have evolved over time. The objective of the present study is to know about the various types of Digital payment transactions that are used by the common people in their day-today's lives. And also a look on the security of the payment gateway.

E-wallets are intended to replace the existing physical wallet, with its notes, coins, plastic cards, ATM cards and loyalty cards etc. Now a day, the challenges of payment transactions were initially underestimated. Business via the internet and mobile telephony has so far been dominated by the methods of payment systems in traditional business.

However, considering advances in technology, traditional business models are increasingly coming up against their limits. e-wallet is a convenient, easy-to- use, secure payment system. It is flexible "Electronic payment system" with several payout and pay-in options via bank account and Credit/Debit cards

We will have a literature review so we can understand the topic wisely and have a light in it. we will use a primary data to know consumers view on the digital payments. And analysis it. We will also have a conclusion to conclude the topic.

KEY WORDS:

1. Growing up
2. Advances in technology
3. Traditional business
4. Digital payments
5. E wallets

INTRODUCTION:

How to define online payments?

A online payment, sometimes called an electronic payment, is the transfer of value from one payment account to another using a digital device such as a mobile phone, POS (Point of Sales) or computer, a digital channel communications such as mobile wireless data or SWIFT (Society for the Worldwide Interbank Financial Telecommunication).

This definition includes payments made with bank transfers, mobile money, and payment cards including credit, debit and prepaid cards.

There is no single, universally accepted definition of online payments because online payments can be partially digital, primarily online, or fully online. For example, a partially online payment is one in which both payer and payee use cash via third party agents, with providers making digital bank transfers in the backend. A primarily online payment might be one in which the payer initiates the payment digitally to an agent who receives it digitally, but the payee receives the payment in cash from that agent.

So, the definition must be fit-for-purpose. One definition emphasizes the payer-payee interface as the defining element. Another defines digital payments based on the payment instrument, or some other variable. These definitional choices become particularly relevant when the objective is to estimate the number or share of digital payments in a specific use-case, organization, company, country, or region. The definition of online payments determines how they are measured.

BENEFITS OF ONLINE PAYMENT SYSTEM:

1. Saves Time:

One of the most obvious benefits is that online payments save time. This is true for both your practice and the patient. Your practice saves time on administrative tasks when patients can pay automatically online. I'll touch more on this in the other benefits, but it reduces the overall workload that you have to do when collecting payments. For example, you don't need to spend so much time on the printing and mailing process if patients can sign up for paperless billing. It also saves your front-end team time if they don't need to take as many payments over the phone or in the office. Online payments also save patients time. They won't need to call your practice to settle their balance over the phone. They also don't need to take time writing out a check and going to the post office to buy a stamp and mail the bill.

2. Reduces Days Sales Outstanding:

By saving time on behalf of your team and your patients, you ultimately reduce your days sales outstanding (DSO). This is the average number of days it takes for you to collect payments for a service. The longer it takes; the less revenue you have for some time. Between waiting on insurance, sending patients their invoices, and waiting on them to pay, it could take months before you receive

what's due to you. So many factors go into why some practices experience longer DSO. But one reason has to do with how patients pay.

3. More Efficient:

These electronic portals are much more efficient than traditional options. As you can already see from the two examples above, snail mail delays the process for everyone. If it takes up more time, it isn't as convenient for anyone.

Because 81% of Americans have smartphones, they can settle their bills from anywhere at any time. People are more likely to choose the faster and more convenient method for their services. That's why the average adult spends 60% of their food budget on eating out. If it's more convenient, they'll spend more money on it. Since people value efficiency, they'll likely pay their health bills on time with the convenience of electronic options. In just one month, 70% of smartphone owners said that they paid a bill with a mobile app. Another 48% used the biller's website which people can also do using their smartphones.

4. Reduces Need for Cash or Checks:

If clients are paying through mail or onsite, you both may end up dealing with cash or checks. These sound archaic, but people do still use them. As of 2018, cash made up a little more than 5% of bill-pay methods, and checks made up over 15%. Using cash or checks just adds more security risks and creates a hassle for everyone. But if you offer more methods, more people will likely choose those. This way, you won't need to keep cash at your practice or deposit checks.

DISADVANTAGES OF ONLINE PAYMENT SYSTEM:

1. Security Concerns:

Although stringent measures such as symmetric encryption are in place to make e-payment safe and secure, it is still vulnerable to hacking. Fraudsters, for instance, use phishing attacks to trick unsuspecting users into providing the log-in details of their e-wallets, which they capture and use to access the victims' personal and financial information.

Inadequate authentication also ails e-payment systems. Without superior identity verification measures like biometrics and facial recognition, anyone can use another person's cards and e-wallets and get away without being caught. These security concerns may make some people reluctant to use e-payment systems.

2. Disputed Transactions:

If someone uses your company's electronic money without your authorization, you would identify the unfamiliar charge and file a claim with your bank, online payment processor or credit card company. Without sufficient information about the person who performed the transaction, though, it can be difficult to win the claim and receive a refund

3. Increased Business Costs:

E-payment systems come with an increased need to protect sensitive financial information stored in a business's computer systems from unauthorized access. Enterprises with in-house e-payment systems must incur additional costs in procuring, installing and maintaining sophisticated payment-security technologies.

CHARACTERISTICS OF ONLINE PAYMENTS SYSTEM:

1. Security:

Since payments involve actual money, payment systems will be a prime target for criminals. Since Internet services are provided today on networks that are relatively open, the infrastructure supporting electronic commerce must be usable and resistant to attack in an environment where eavesdropping and modification of messages is easy.

2. Reliability:

As more commerce is conducted over the Internet, the smooth running of the economy will come to depend on the availability of the payment infrastructure, making it a target of attack for vandals. Whether the result of an attack by vandals or simply poor design, an interruption in the availability of the infrastructure would be catastrophic. For this reason, the infrastructure must be highly available and should avoid presenting a single point of failure.

3. Scalability:

As commercial use of the Internet grows, the demands placed on payment servers will grow too. The payment infrastructure as a whole must be able to handle the addition of users and merchants without suffering a noticeable loss of performance. The existence of central servers through which all transactions must be processed will limit the scale of the system. The payment infrastructure must support multiple servers, distributed across the network.

OBJECTIVE:

1. To know how online payment system is beneficial in day-to-day life.
2. To know people's view regarding online payment system.
3. To know about Security in E- Payment.

4. To get information about awareness in E-payment.

LIMITATION TO THE STUDY:

1. There are many payments method covering all of them is not possible.
2. Everybody use there, own preferable payment method and its vast.
3. Sample size is not adequate.

SCOPE AND SIGNIFICANT TO THE STUDY:

1. We will get to know how people use online payment system.
2. Payment system are changing drastically and in this project we will see how people have changed there mind set towards payment or transfer.
3. We will see in which areas people make payments.

REVIEW ON LITREATURE:

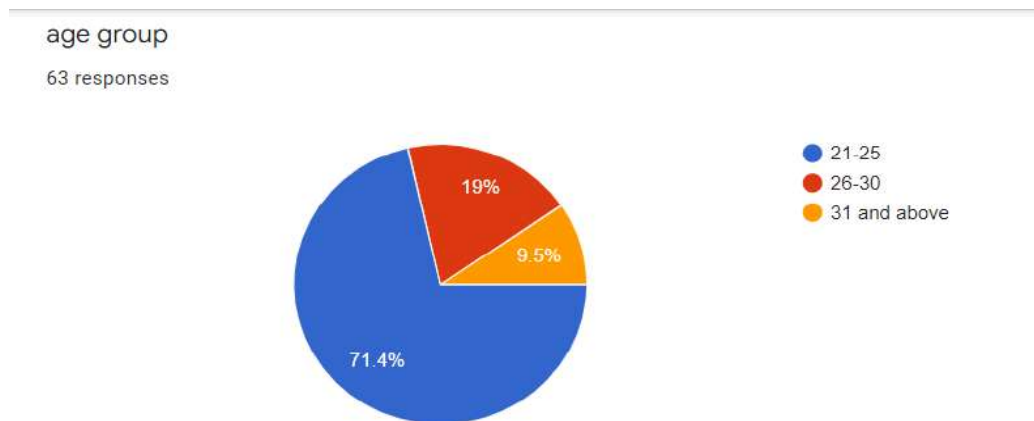
1. Baghla . A (2018) in his study identified the trends for adopting the digital payment system India. Further the paper talks about how after demonetization people started to use the digital platforms for transactions. How the government initiative to make our economy a cashless one and how consumer will be adopting such system are further discussed. A structed questionnaire was used to collect data and find out the future of digital payment system in India.
2. Pandey and Rathore (2018) in their study discussed the impact of digital payment system. Due to modernisation and globalisation, it was very important for the people to accept the modern method of payment. The study is based on secondary data and various literatures from past papers and government data. All data collected has been analyzed and used to find the impact and adoption of digital payments by the people.
3. Pushpa S. Abbigeri and Rajeshwari M. Shettar (2018) talked about how the Digital India flagship program attracted large number of people to start using digital wallets, which people started to use as there was lots of cash back offers and coupons. After the digital India flagship program a lot of mobile wallet companies entered India and other methods such as UPI, NEFT to a surge. The initiative taken by the government and RBI was being accepted by the people as they were using such methods.
4. Shivathanu B. (2019) in his study adoption of digital payment system in the era of demonetization emphasized on how the digital payment system was used by the people or accepted by the people during demonetization. It was based on a conceptual framework where the sample size was 766 .The

data analyzed suggested that behavioral intentions and innovation resistance had an impact on the actual usage.

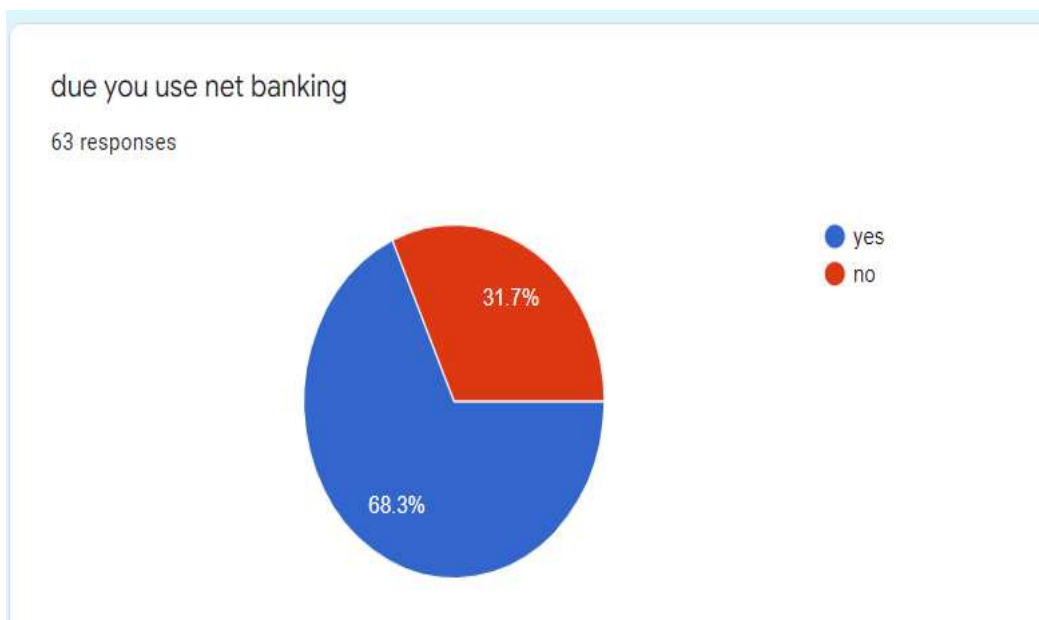
DATA AND ITS ANALYSIS:

In this project we will see data and analysis with the help of primary data with a response of 63 people

1. In this survey 71.4% people age group between 21-25 opted more for the survey. And about 19% people are between 26-30. 9.5% between 31 and above.

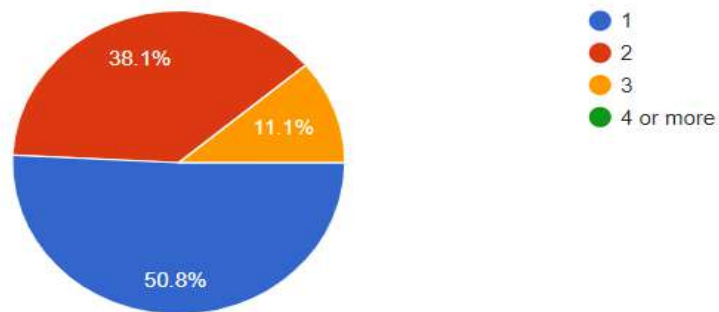


2. In this question do you use net banking about 68.3% people use net banking and rest 31.7% do not use online payment system.



how many bank accounts do you use for online payment

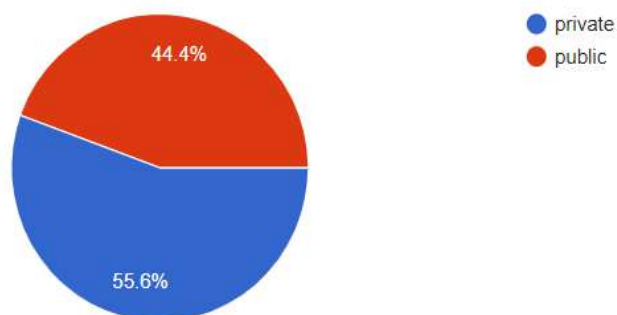
63 responses



3. In this question which sector bank is technologically advanced about 44.4% people think public sector bank is technically advanced while 55.6% people think private sector bank is technologically advanced .

which sector bank is technologically advanced

63 responses



4. In this question how many bank accounts do you use for online payment about 50.8%. people use 1 account for payment and rest 38.1% people use 2 accounts and only 11.1% use 3 accounts.

CONCLUSION:

From this survey we come to know that peoples thinking is different and also gradually people are opting for online payment. Implementation are made so people opt for online payments because of transparency which it gives.

E-Motorcycle: A solution to reduction in cost of transportation

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ABSTRACT

This research covers the area of electric vehicles stanch for personal vehicle and its relevant market including the background information about the topic. The research is focusing on the research of current situation for the buyers and the less and more favourable conditions in Indian automobile industry. The principal of the report is comparative research of electric vehicle and conventional vehicles. In addition to this, the research focuses on the total cost of ownership of owning Electric vehicle instead of the conventional vehicle in the Indian market. In addition, the research assumptions are used in the formation of a questionnaire focusing on finding out about the awareness of electric vehicles among the publicity nowadays. The final statement that is going to be approved or rejected is the electric vehicles as a better alternative to the conventional vehicle in India.

Keyword: *Electronic motorcycle, Electronic Vehicle, plug-in, hybrid vehicles, conventional vehicles, Indian bike market*

1. INTRODUCTION

Energy crisis is one of the major concerns of today's world due to fast depleting resources of petrol, diesel, and natural gas. In combination with this, environmental decay is an additional factor which is contributing to the depletion of resources which is an alarming notification. Electric Bike which works on the battery that is powered by the motor is the general mode of transport for a local trip. The Electric bike which will be running on battery, the power is supplied by the motor, thereby supplying this power to drive the other gear components. The main purpose of using E-bike is that it is user-friendly, economical, and relatively cheap. The efficiency of this system is undeniable compared to conventional modes of transport.

2. REVIEW OF LITERATURE

A review of the relevant literature has been described as under.

Akshat Bansal & Akriti Agarwal (2018), in their research paper on "Comparison of Electric and Conventional Vehicles in Indian Market". the research focuses on the total cost of ownership of owning Electric vehicle instead of the conventional vehicle in the Indian market. The research also emphasizes on manufacturer perspective by finding out the best segment to launch an electric vehicle in India. In addition, the research assumptions are used in the formation of a questionnaire focusing on finding out about the awareness of electric vehicles among the publicity nowadays.

A. Jhunjhunwala, P. Kaur and S. Mutagekar in their research paper on "Electric Vehicles in India: A Novel Approach to Scale Electrification," in IEEE Electrification Magazine explained that over the last few years, electric vehicles (EVs) have captured the imagination of people in many parts of the world. Approximately 1.1 million passenger EVs (cars) were sold in 2017, up by about 57% from the previous years. Several nations have announced that their vehicles will be fully electric by 2025, 2030, or 2040. General Motors, Ford, Toyota, Volkswagen, and others demonstrated their EV ambitions by making major EV announcements.

Khurana A, Kumar VVR, Sidhpuria M in their research paper titled, “A Study on the Adoption of Electric Vehicles in India: The Mediating Role of Attitude” explained that various governments are encouraging people to switch to EVs by incentivizing the transition. Previous studies indicate that the high cost of the electric car, non-availability of charging infrastructure, time and range anxiety act as impediments to consumer adoption. The Government of India has given a call for ‘only Electric Vehicles’ on Road by 2030. This article is contemporary and examines the different factors that affect a consumer’s adoption of an EV.

3. RESEARCH METHODOLOGY

The present study is an analytical study because it deals with statistical data. The study is based on primary as well as secondary data. The primary data is collected via structured questionnaire from 141 respondents. The secondary data is collected mainly from the sources available on internet like the articles, journals and websites. Data is presented with the help of Graphs, charts and tables etc, whereas data analysis is done via excel and SPSS software. The statistical tools used are enumerated below:

1. Arithmetic mean for calculating values for the purpose of evaluation.
2. One-way ANOVA for analysis and interpretation.

OBJECTIVES

The following are the broad objectives of this research paper:

1. To find out the market share of different e-motorcycle manufacturing companies in India.
2. To find out the factors influencing the preference for e-motorcycles.
3. To perform comparison between e-motorcycles and petrol bikes.

HYPOTHESIS

H1 - Electric motorcycles are more suitable in current situation.

H0 - Electric motorcycles are not suitable in current situation.

H1 - Electric motorcycles are more convenient than petrol bikes.

H0 - Petrol bikes are more convenient than electric motorcycles.

MEANING OF E-MOTOR CYCLE

An electric motorcycle (e-motorcycle) is a motorized bike with an integrated electric motor used to assist propulsion. Electric motorcycles and scooters are plug-in electric vehicles with two or three wheels. The electricity is stored on board in a rechargeable battery, which drives one or more electric motors. Electric scooters (as distinct from motorcycles) have a step-through frame. Electric motorcycles usually have a larger battery pack and can go up to 100-110km on a single charge.

PROS AND CONS OF ELECTRIC BIKE

PROS:

(i) Zero Vehicular Pollution:

Of course, this is the No.1 reason for such a massive shift to electric vehicles (EVs). They run on electric motors, and not use fossil fuels, which means they don’t let out any pollutants. In effect, the increasing adoption of EVs is being promoted to negate the major role that internal combustion-engined (ICE) vehicles have played in the world’s overall carbon emissions.

(ii) No Maintenance:

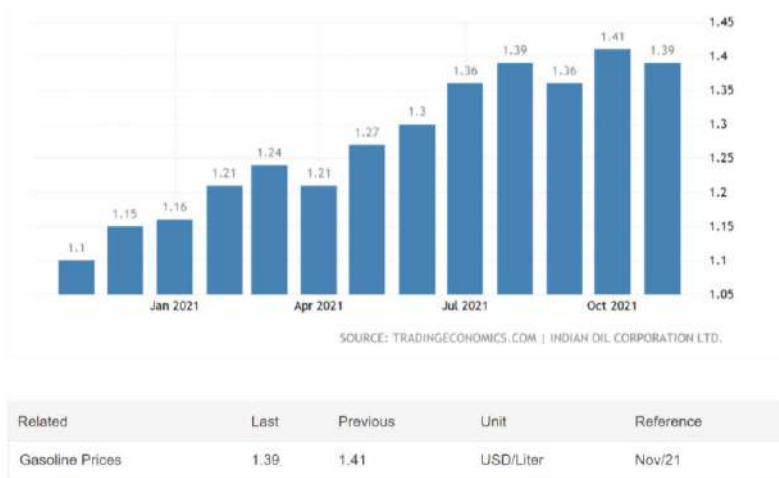
Even after months of daily driving, all that an electric two-wheeler requires is regular cleaning and the occasional lubrication. They have very few moving parts and mechanicals compared to their conventional petrol-powered bikes and scooters. Also, they don't require engine oil or air filters which are the commonly replaced components on a ICE vehicle. Hence, only basic parts need maintenance.

(iii) No Noise:

Apart from polluting the air, conventional two-wheelers with petrol engines are quite noisy. A few actually enjoy this noise, but most would rather do away with it. With an electric two-wheeler, that is just what you can do, as the electric motor makes only a light hum even at full speed, reducing the overall noise pollution of your city.

(iv) Cost Efficient:

Electric two-wheelers usually come with two types of cost benefits - no maintenance over time and a more stable energy source price. Since electric bikes and scooters run on electricity, they're relatively more affordable. The price of electricity does not fluctuate as frequently as that of petrol and diesel. So, you will always pay relatively less to recharge and run your electric two-wheeler. In fact, some electric two-wheelers have a running cost of 1/10th of a ICE vehicle.



Source: <https://tradingeconomics.com/india/gasoline-prices>

(v) Government Incentives:

Various countries and governments across the world have developed frameworks and implemented laws to promote the ownership of electric two-wheelers. In India, the government provides FAME II incentives, which bring down the on-road price of an electric two-wheeler considerably.

CONS:

(i) Higher Initial Investment:

Since electric two-wheelers are not as widely manufactured as their conventional cousins, their cost is still quite high. This makes EVs inaccessible for a large population, as not everyone is willing or can afford to pay the high premium. The primary reason for the high cost of electric

two-wheelers is the lithium-ion batteries, which sometimes can be 50 per cent more than the cost of the vehicle itself.

(ii) Short Range:

With the current level of battery technology, the range of an electric two-wheeler is mostly lesser than that of its conventionally powered counterpart. This coupled with the limited charging infrastructure deters EV buyers.

(iii) Not so great on performance:

Most of the premium, modern electric two-wheelers have an unimpressive top speed for the price they command. Sure, the initial acceleration is high but electric motors usually lose their steam as the speeds climb. None of the reasonably priced modern electric two-wheelers sold in India is properly highway worthy so far. Even the high-speed electric scooters on sale have a top speed in the range of 60-80kmph and are priced over Rs 1 lakh.

(iv) Charging Infrastructure:

The lack of good charging infrastructure poses a problem, particularly in developing countries such as India. Once that is taken care of, it could essentially eliminate range or future anxieties that plague electric two-wheeler owners. While growth is expected in the next few years, finding a charging point right when you need it is not as easy as finding a fuel bunk yet.

(v) Charge times:

It takes just two minutes to refuel a bike or a scooter, but charging an electric vehicle can take a couple of hours at the bare minimum. Yes, there is the advantage of quick charging tech now, which can give your EV a full charge in just about an hour. However, don't expect to find these fast chargers everywhere just yet. Moreover, not all electric two-wheelers have fast-charging capability as it puts additional strain on the battery's life. That said, a few companies have adopted swappable battery technology, which is a novel way to minimise downtime while charging and also reduce range anxiety to a certain extent.

(vi) Limited Options:

This may be a temporary concern considering the influx of EVs expected from varied manufacturers over the next couple of years. Currently, however, you can count the available options on your fingertips. Thanks to the limitation in battery technology, the range remains limited too. This is one of the reasons why most manufacturers dabble in the scooter segment rather than the motorcycle space.

4. INDIAN ELECTRIC VEHICLE MARKETS OVERVIEW

The Indian Electric Vehicle Market was valued at USD 5 billion in 2020, and it is expected to reach USD 47 billion by 2026, registering a CAGR of above 44% during the forecast period (2021-2026). The Indian Electric Vehicle Market has been impacted by the outbreak of the COVID-19 pandemic due to supply chain disruptions and halt of manufacturing units due to continuous lockdowns and travel restrictions across the country. However, the electric vehicle

(EV) market is still in its nascent stage in India. It is expected to grow at a much faster rate during the forecast period due to various government initiatives and policies.



5. CURRENT E-BIKES AVAILABLE IN INDIAN MARKETS:

In table 1 and table 2 below, it shows that current e-bikes available in Indian market.

Table 1: Comparison of e-Bikes

Model	Revolt RV 400	Revolt RV 300	Ultraviolette F77	Ather 450	Ather 450X	Bajaj Chetak	TVS iQube Electric
Rated Power	3000 W	1500 W	NA	3300 W	3300 W	3800 W	NA
Max Power	NA	NA	33.5 bhp (25 kW)	5400 W	6000 W	4080 W	4400 W
Top Speed	45-85 kmph	25-65 kmph	147 kmph	80 kmph	80 kmph	78 kmph	78 kmph
Battery Capacity	3.24 kWh	2.7 kWh	4.2 kWh	2.7 kWh	2.9 kWh	3.0 kWh	4.5 kWh
Range	80-150 km	80-180 km	130-150 km	55-75 km	60-85 km	85-95 km	75 km
Charging Time	4.5 Hrs	4.2 Hrs	5 Hrs (1.5 Hrs Fast Charge)	5 Hrs (80% in 1 Hr Fast Charge)	5 Hrs (80% in 1 Hr Fast Charge)	5 Hrs	5 Hrs
Price (ex-showroom)	₹ 1,29,463	₹ 1,10,963	₹ 3,00,000	₹ 1,08,847	₹ 1,48,754	₹ 1,15,000	₹ 1,15,000

Source: <https://www.bikedekho.com/>

Table 2 Comparison of e-Bikes

Model	Okinawa iPraise	Hero Photon	Ampere Magnus Pro	Okinawa Ridge Plus	Ampere Zeal	Hero Optima ER	Okinawa Lite
Rated Power	1000 W	1000 W	1200 W	800 W	1200 W	600 W	250 W
Max Power	2500 W	1500 W	NA	1700 W	NA	1200 W	250 W
Top Speed	58 kmph	45 kmph	55 kmph	45 kmph	50-55 kmph	40 kmph	25 kmph
Battery Capacity	3.3 kWh	2.7 kWh	1.8 kWh	1.74 kWh	1.8 kWh	2.7 kWh	1.25 kWh
Range	160 km (Eco)	110 km (Eco)	75-80 km	84 km	85-90 km	110 km	60 km
Charging Time	4 Hrs	5 Hrs	5-6 Hrs	3 hours	5-6 Hrs	4-5 Hrs	4-5 Hrs
Price (ex-showroom)	₹ 1,23,000	₹ 84,990	₹ 73,990	₹ 73,417	₹ 68,799	₹ 74,990	₹ 63,990

Source: <https://www.bikedekho.com/>

In table 1 and table 2, it clearly indicates that more than 10 electric bikes are available in the Indian market in current situation. The highest price is Rs.3,00,000 quoted by Ultraviolette F77 and lowest price is Rs. 63,990 quoted by Okinawa Lite.

6. ANALYSIS OF DATA

COST-BENEFIT ANALYSIS OF E-BIKE AND PETROL BIKE (ASSUMPTION)

Let us assume Mr.A using ebike and Mr.B using petrol bike. The following table gives you better idea about the cost-benefit analysis between bike and petrol bike.

Table 3

Sr No	Particulars	e-bike	Petrol Bike
1	Buying Cost	Rs.60,000	Rs.70,000
2	Daily Running	50 km	50 km
3	Fuel efficiency/Mileage	100km per charge	40km per litre
4	Fuel/electricity cost	Rs. 14 per 1.5 units	Rs. 109 per litre
5	Maintenance	Rs. 20,000 per year	Rs. 7500 per year
6	Time period	3 years	3 years

After 3 years here is how much Mr. A and Mr. B will spend

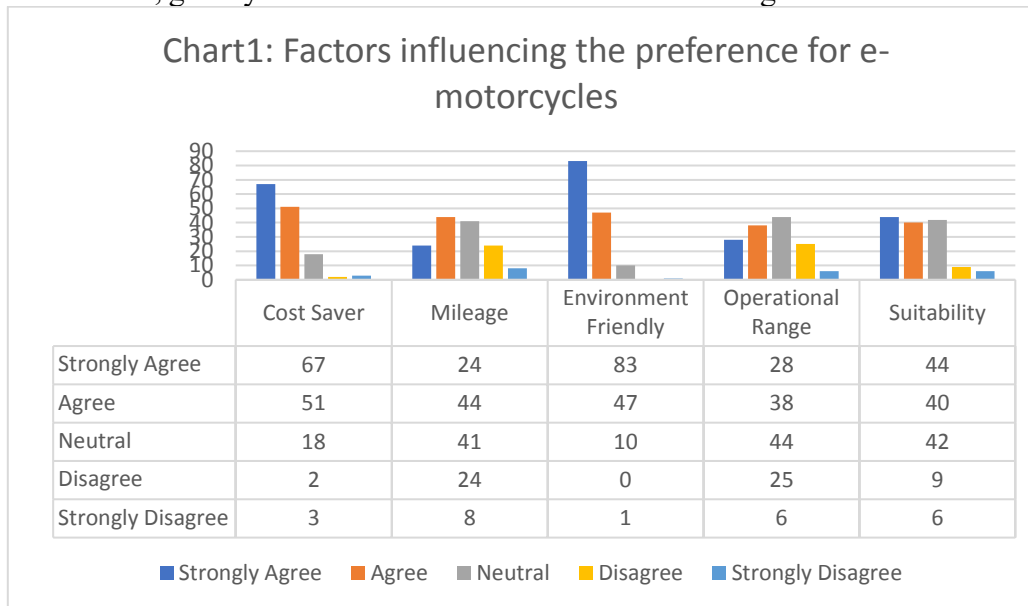
Table 4

Sr No	Particulars	e-bike	Petrol Bike
1	Total Petrol/electricity exp	Rs.7560	Rs.1,47,150

		$((50 \times 30 \times 36) / 100) * 14$	$((50 \times 30 \times 36) / 40) * 109$
2	Total Cost of maintenance	Rs.60,000	Rs.22,500
3	Gross exp including bike's cost	Rs.1,27,560	Rs.2,39,650

As per above analysis, over a period of 3 years, Mr. A will incur Rs. 1,27,560 on ebike, whereas Mr. B will incur Rs. 2,39,650 on his petrol bike. So the saving of Mr. A will be Rs. 1,12,090 for 3 years, so yearly savings of almost Rs.40,000.

Researcher collected primary data via structured questionnaire and 141 responses received. The below chart 1, gives you a better idea about factors influencing e-bikes in current situation.



Source: Author compilation

As per above chart1, 83.7% respondents agree that E-bikes are more cost saver as compared to petrol bikes. 92.2% respondents agree that E-bikes are more environmentally friendly as compared to petrol bikes. 60% respondents feel that E-bikes are more suitable to them as per the current situation.

The above data of respondents is analysed using IBM-SPSS software and One-way annova is applied as follows.

Table 5: Factors influencing the preference for e-bikes (Descriptive Statistics)

Users of E-Bikes	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Yes	114	10.3246	3.38789	.31730	9.6959	10.9532	5.00	21.00
No	27	12.3704	3.67055	.70640	10.9183	13.8224	6.00	25.00
Total	141	10.7163	3.52405	.29678	10.1296	11.3031	5.00	25.00

Source: Author Compilation as per IBM SPSS Software

As per Table 5, 114 respondents are using e-bikes out of 141. The mean of factors influencing the e-bikes of respondents is 10.3246. The standard deviation is 3.38789. Even though the people are not using e-bikes still they are agree that e-bikes are more suitable.

Table 6: Factors influencing the preference for e-bikes (Annova Test)

	Sum of Squares	df	Mean Square	F	Sig.	Table value
Between Groups	91.365	1	91.365	7.709	.006	7.71
Within Groups	1647.288	139	11.851			
Total	1738.652	140				

Source: Author Compilation as per IBM SPSS Software

As per Table 6, the one-way Anova test is applied to test the hypothesis. The Anova result as given in table 6 shows that the calculated F value for hypothesis is 7.709 which is less than the Table value of 7.71. At 95% confidence level of significance is 0.05 and the F value is more than that i.e. 7.709. It is understood that electric vehicle is more suitable in the current situation. Therefore the null hypothesis i.e. Electric motorcycles are not suitable in current situation is rejected.

7. FINDINGS

1. The e-bikes are more cost saver as compared to petrol bikes.
2. E-bikes are more environmental-friendly which help to improve the air quality index of city like Mumbai.
3. Currently there are less availability of service station which is the main factor why people are reluctant to switch to e-bikes from petrol bikes. Still e-bikes have growth potential in the future.
4. The operational range of e-bikes is limited to short distance, however with new techniques, and development in e-bikes, the operational range will improve in the future.
5. Still there is a dilemma in the minds of petrol bike users to switch to e-bikes because of after sales services and charging related issues.

8. CONCLUSION

EVs are said to boost post-pandemic for economic recovery. The main aim of EVs in the country is to reduce the oil import and encourage green industrial policy. Electric vehicles will reduce the air pollution and mitigate climatic change. In order to promote usage of e-vehicles, the Indian government also provide lot of subsidies and schemes such as Faster Adoption and Manufacturing of Hybrid and Electric Vehicle (FAME scheme II). A lot of incentives are provided to the buyer such as basic subsidy, rebate, Income tax benefits under section 80EEB etc. In addition to all these incentives, all the electric vehicles are free of registration and road tax costs too. In spite of all the efforts taken by the government, the adoption of e-bikes are relatively less. This is because of many reasons such as less availability of service stations, charging issues, after sales services, etc. Finally, in the near future, EVs will have a great future in Indian market.

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STUDY EFFECTIVENESS OF “V E SHALA”
“E-LEARNING PLATFORM FOR ORPHANAGE KID’S”

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INTRODUCTION:

India has recorded more than 30 million orphanage and abandoned children since the covid pandemic started in year 2020. many organizations, units and NGO’S has come up to help these children financially and mentally from many ways. covid pandemic really hit all of us hard, some lost their jobs, some lost their family and many unfortunate things happened in many ways. life literally became harsh on children who lost their parents who were only their family. and they left in care of orphanage. we believe orphanage children gets education, but the skills which they needed to know, revision help in academic studies and mentoring guidance from which they somehow get deprived from all of these with the help of V E-SHALA.

As from all of this we came with our model V-E-SHALA, where young leaders came forward with a motive to help orphanage children in their studies, giving career guidance, to make them skilled person so they can find opportunities in world out there easily and many more.

V E-SHALA: It is a platform that indirectly helps youth to exhibit their knowledge and talents to create a small difference but with a great impact on society. In short, our DLLE volunteers taken a step to help orphanage kids through their education and careers, so they can make a bright future for themselves. education is only way where people can reach heights of success, makes difference not only in his/her life but also able to help society in many ways. they will be help other orphanage kids, as we know who has already suffered the pain will understand more and come with more reliable solutions so that not any another person can go through same fate again which they experienced. and it will be going to be live example to motivate others to believe that not always going to be darkness, once you started to believe and act in yourself, no one can stop you to get what you deserve.

V E-SHALA, effect on DLLE volunteers:

a) To boost confidence: volunteers will get a stage to talk, share knowledge. it will be a platform where volunteers will break their shyness, introvert nature and push themselves to achieve our objectives.

b) Get a platform: volunteers will get a platform to showcase their talents. it will be a platform which will help them to explore their area of interest and give them a hands-on practice as well.

REVIEW OF LITERATURE:

Review of literature is one of the important aspects of any research as it provides the information about the online learning and its effectiveness.

Jesis B(2021) The research paper give detail information about the challenges of online learning and also discussed different solution reading challenges . In the COVID-19 pandemic education industry suffer a lot. The blended learning is the way to solve the problems

Aman J(2018), in this paper, researcher have main focus on boosting online education in India. How it helps to various students who live in remote area and how it will save the time and money of all the people. If online education can done properly then it will have great impact in the future of Indian education sector.

ANNA Q(2016), The purpose of this paper is to give practical suggestions regarding online education. The paper provides various finding regarding effective online learning. This help both Teacher and students to make education more effective

Moore, M., & Kersley, G. (2012). The book is research oriented and provide consistent principal of teaching and learning. The author gives broad experience regarding course designing and its dissemination,

MUNTAJEEB ALI BAIG (2011), The researcher gives experimental design for effective on line learning for 10th grade students in the subject of Physics. Online learning must be learner centric which help for more understanding of subject by students.

Review of literature help the researcher to give in depth analysis of online learning and its effectiveness in covid19 pandemic.

OBJECTIVES:

- 1.To identify the problem faced by the orphanage children in their learning.
- 2.To provide a platform to young youth who can undertake positive activity for better society.
- 3.To provide solution for the problems in E-Learning or online learning.

HYPOTHESIS:

H₀ Null Hypothesis – There is no significant impact of V E-Shala in online learning of orphanage kids.

H₁ Alternative Hypothesis – There is significant impact of V E-Shala in online learning of orphanage kids.

RESEARCH METHODOLOGY:

Research Method:

The nature of this study is Empirical and Analytical method

Method of Data collected:

Primary Data: Survey is conducted with the help of questionnaires for collecting primary data from the kids of orphanages from 52 respondents. In this we have circulated the google which included specific number of questions, so that we can get the official feedback, how V E-SHALA working and if it's really helping the orphanage kids.

Secondary Data:

The secondary data is also collected from census surveys, reports, newspaper, journals, articles, etc .

Techniques:

Data analysis is done via excel and SPSS software used are enumerated below:

1. Arithmetic mean for calculating values for the purpose of evaluation
2. One-way ANOVA for analysis and interpretation.

EXPECTED OUTCOME:

The V-E SHALA is online learning model where young volunteers of Lifelong learning and extension came forward with a motive to help orphanage children in their studies, giving career guidance. As well as make them skilled person so they can find opportunities in world.

a) To reach more geographical area: As for now, our volunteers only able to reach till Mumbai orphanage kids. but in future, our volunteers will surely reach many more another cities orphanage and will spread positivity in our whole nation. and will come up with the live example, that small step can make a big difference. if we have good intention.

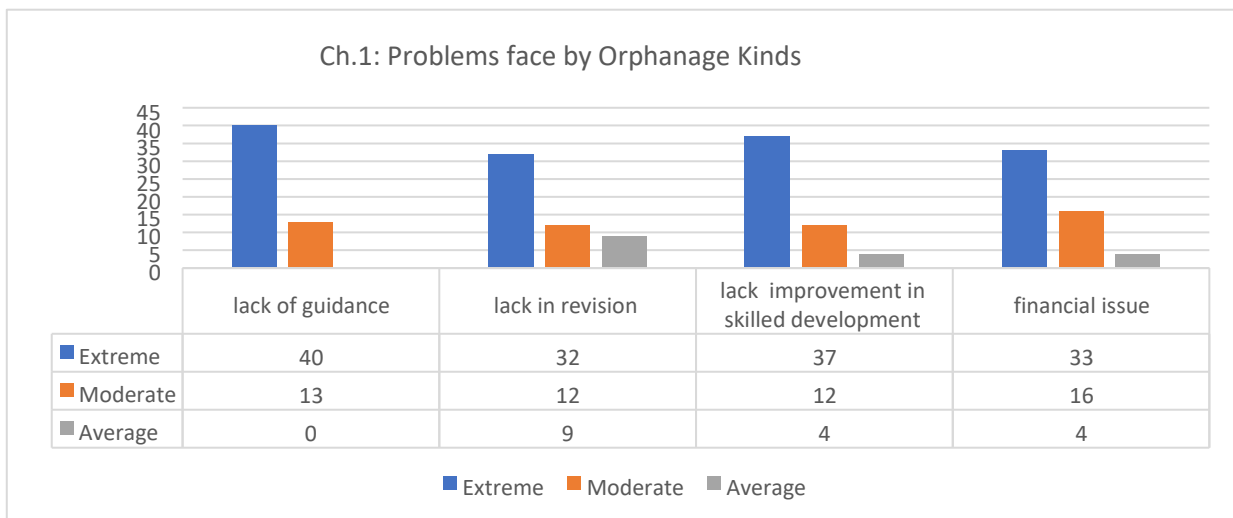
b) Get positive feedbacks: volunteers already started to start teaching certain number of orphanage kids. all volunteers were focusing more so that they can be helpful to those in their studies. as its recently started and 1st batch on top of that who are doing it, so everyone has like

no experience in teaching, managing times and everything. so to get positive feedback is going to very much expected so that our volunteers to keep on going. and in our recently survey proofs that our volunteers doing things in a right way with so many positive responses and appreciation from orphanage caretakers. we believe that in coming future as well we will receive positive feedbacks and support so we can keep going altogether to create a big difference.

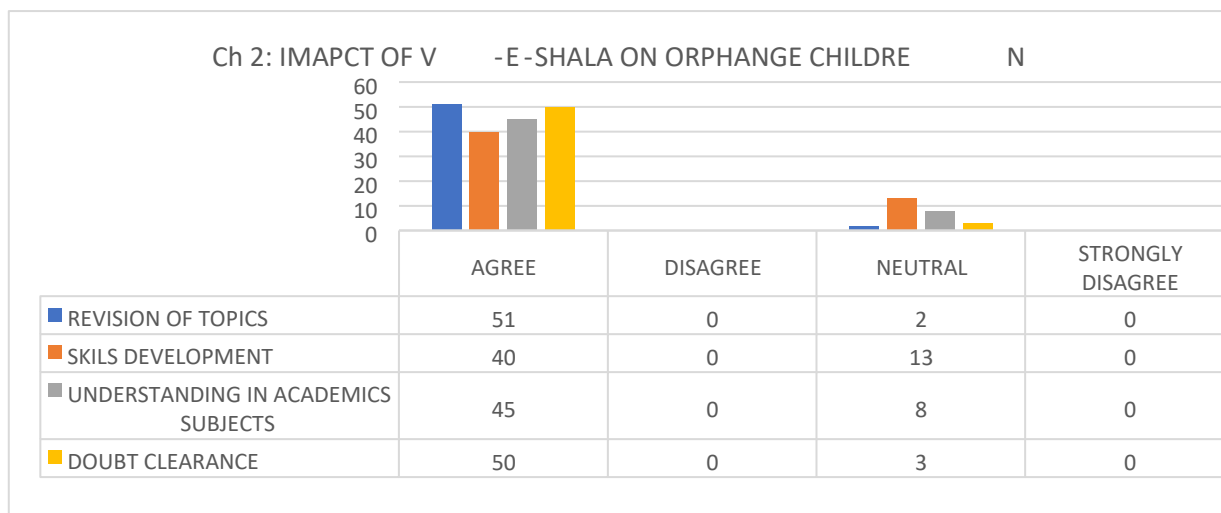
c) Able to make a difference in orphanage kids academic studies and make them more skilled: As we not only going to focus on children academic studies, we agree academic subjects are very much important but we will also going to help them with skills like computers, dance etc.

DATA ANALYSIS:

The primary data collected from 52 orphanage kids from Mumbai city which analyzed as follows



The Chart 1 shows the problems face by the Orphanage kids such as Lack of guidance, lack of revision, lack of improvements in skilled developments etc and more than 90% the kids are facing above issue very seriously. There is need for one online platform which help them to solve the issues and V E Shala is the one way to handle the above issue of kids.



The Chart 2 shows the Impact of V E- Shala on Orphanage students on the basis of parameters such as Revision of lecture, skills developments, understanding subject and doubt clearing. all most all kids are agreeing that V E-SHALA platform help them in revises the topic and clearing doubts. Near out 80% kids agree that V E-SHALA help in their skills developments and understanding academic subject. This indicates that there is positive impact of V E Shala online platform on orphanage Students.

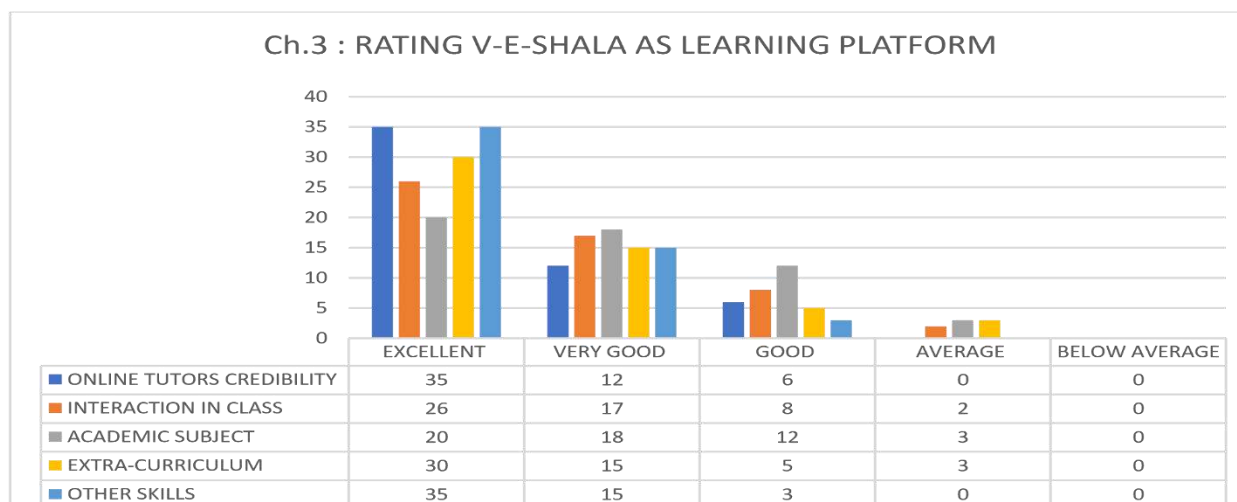


Chart 3 shows the rating of V E- SHALA on orphanage kids on the basis of parameters such as Credibility of tutor, Interaction, Academic subject, Extra activities, and other skill developments. Almost all 67% kids rate V E-SHALA platform is excellent in the case of credibility and other skills developments. Near about 52% rate V E Shala platform is excellent in the development of extra curriculum. This indicates that of V E Shala online platform is accepted by all orphanage kids.

Table 1: Descriptive Statistic of Rating of V-E Shala

Particular	ONLINE TUTORS CREDIBILITY	INTERACTION IN CLASS	ACADEMIC SUBJECT	EXTRA- CURRICULUM	OTHER SKILLS
Mean	4.538461538	4.25	4.019231	4.346153846	4.634615
Standard Error	0.096942467	0.119309	0.127306	0.122457908	0.077813
Median	5	4	4	5	5
Mode	5	5	5	5	5
Standard Deviation	0.699062074	0.860346	0.91802	0.883056532	0.561121
Sample Variance	0.488687783	0.740196	0.84276	0.779788839	0.314857
Kurtosis	0.155165869	-0.01397	-0.68796	0.907881206	0.672159
Skewness	-1.216444723	-0.90061	-0.51345	-1.286896456	-1.25369
Range	2	3	3	3	2
Minimum	3	2	2	2	3
Maximum	5	5	5	5	5
Sum	236	221	209	226	241
Count	52	52	52	52	52

Sources: Researcher compilation software IBM SPSS

The table 1 give details information about the descriptive statistic regarding rating of V E-SHALA by orphanage kids. The above data is tested by One-way Anova.

The results of which showed as under.

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	293.1265	1	293.1265	1060.737	0.00	3.934253
Within Groups	28.18692	102	0.276342			
Total	321.3135	103				

Sources: Researcher compilation software IBM SPSS

The table 2 showed the one-way Anova values of impact of V E-SHALA on orphanage kids. The Anova value is less than the 0.05 that is 0.00 and it shows the significance impact of V E-SHALA on orphanage kids. Therefor the alternate hypothesis that is There is significant impact of VE-Shala in online learning of orphanage kids is accepted.

BENEFIT TO SOCIETY:

Due to this covid pandemic mostly everything shifted to online platform, and if we try to see from positive part of view its made a better reach to many people at once. It's also becoming more flexible to very extend level where we can connect with studies anytime.

With this view V E-Shala came into existence which focus on all educational academic subjects, computers skills, personality development, and many skills. It helps to improve knowledge and skills of orphanage children in their respective field. Young volunteers were going to interact with children, not by presenting themselves as a teacher, professor but as a friend. Our volunteers not only help kid's in their studies but also mentoring. This will help volunteers to uplift their communication and interpersonal skill. We will be doing it make a small change in someone's life in a better way possible.

SWOC ANALYSIS:**E-Shala - SWOT Analysis:**

SWOT analysis full form is strength , weakness , opportunities and threat .Where strength refers to quality in which you are exceptional good and it will help to achieve our target in many ways , weakness come as where we have to put a number of efforts so we can overcome our weak point and make it as our point where things can work out in good way , opportunities can be explained in a way , a chance to come and we grad that with dedication and achieve it with our hard work and threat is a warning , from which we have to very cautions so we can reach heights of success.

SWOT Analysis V E-SHALA:

Teaching has always taken place in offline form mainly from school, college to universities, but due to sudden hit of covid pandemic, whole education sector changed online mode in overnight itself. so coming up with our model V ESHALA, all volunteers going to conduct online session.

Strength:

1. Access from anywhere that has internet connection
2. Can perform independently.
3. Ability to do school and attend our lecture accordingly on time.
4. Technologically helps in gaining confident.
5. Students based center helps in attending more interactive session.
6. Open to any type of feedback. discussion can be done with tutor after session as well.

Weakness:

1. Inability to function, lack of discipline and management skills.
2. Poor IT skills
3. Cost of computers or smart phones
4. Loss of direct communication
5. Lack of compatibility between the learning design and psychological component of learning program.

Opportunities:

1. Easy access to enrolment throughout the year
2. New technologies allow for greater choice in subject matter.

3. Gamification and VR provide exciting ways of learning experience
4. Opportunity to stay academically engaged in spite of other activities.

Threats:

1. Internet connectivity issues: As in some backward areas, they are lots of internet issues.

As our program is highly dependent on online theme, internet connectivity had become one of the necessity.

2. Need more marketing: As V-E-Shala came in online platform, recently, our young volunteers need to spread more about V-E-SHALA, so every needed one can take advantage of it.

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LOOPHOLES IN PUBLIC TRANSPORT SYSTEM & HOW WE CAN SOLVE IT

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ABSTRACT:

This research deals with the loopholes in public transport & problem faced by commuters due to those loopholes. As well as to find a revolutionary solution to solve the problems faced by commuters & to redefine the way we commute today with help of breakthrough technology to provide a world class service for daily commuters.

KEYWORDS: Vehicle Tracking, Smart City, Commuters, Real time data.

INTRODUCTION:

Public transport is the backbone of each nation & it's economy as well as public transport help each daily commuter to commute from one place to another. Some Commuters spend their 25% to 30% of time in commuting whole day. Traffic jams, inaccurate time of arrival of public transport, facility tracking of public transport. To solve the day to day commuting problem and to create a potential outcome this research has been done. This research includes a practical and end to end solution for this problem. This will help commuters to plan and schedule their commute. In crowded situation people will be able to buy e-tickets easily and pay online. the further step is to connect each and every public transport in Mumbai.

This will not only develop the infrastructure for new age public transport but also it will help the people to commute easy and faster. Once we add all the public transport under one roof it will have an added advantage.

OBJECTIVES:

- 1.To find how people commute in Mumbai.
2. Loopholes in public transport system.
- 3.Finding a revolutionary solution to solve the problem of the commuters & to redefine the way we commute today with the help of breakthrough technology to provide a world class service for daily commuters

SCOPE OF STUDY:

We can add more features by using the data. Further we can develop a card for all public transport & can improve application. Can connect the various services to make decisions easy & faster. The interface of app will help the passenger to see exactly how far the away the public transport is as well as seating availability in the public transport(in this case the bus) & help them to take right decision to choose an alternative mode of transport & therefore saving time of consumers as well as reducing & managing the crowd properly the crowd properly & even if the public transport is crowded & if the commuter chooses to travel in that same mode of transport he doesn't need to worry of buying ticket in that overcrowded situation because of having super easy method buy & paying fares online . After that we can introduce & connect all public transport to one another. Before starting your journey, you can plan your journey and then you can make your journey successful and easy. It will also help public transport to improve & develop a magnificent infrastructure and ecosystem. This will revolutionize the way we commute today & will help the commuters commute hassle

METHODOLOGY: The study is based on information & secondary data from research papers, public website, reputed digital newspaper articles.

FINDINGS:

Mostly the commuters are tech savvy youngsters, daily college, school & office goers majorly traveling from train, bus & auto etc.

This kind of population sample between age 20 to to 45 are very familiar with today's cutting age & breakthrough technology.

The ultimate solution to this problem is using & integrating breakthrough technology in the hands of each commuter via a smart phone application.

The idea is streamlining the public transport were it is today. As well as making the process of commuting hassle free & establishing a sense of discipline amongst

Commuters as well. It will also give a sense of agency & gratification to the commuters.

This will help the commuters to track, book e-tickets& pay the fares easily using e-payment platform even before leaving the house.

The interface of app will help the passenger to see exactly how far the away the public transport is as well as seating availability in the public transport(in this case the bus) & help them to take right decision to choose an alternative mode of transport & therefore saving time of consumers as well as reducing & managing the crowd properly the crowd properly & even if the public transport is crowded & if the commuter chooses to travel in that same mode of transport he doesn't need to worry of buying ticket in that overcrowded situation because of having super easy method buy & paying fares online . After that we can introduce & connect all public

transport to one another. Before starting your journey, you can plan your journey and then you can make your journey successful and easy. It will also help public transport to improve & develop a magnificent infrastructure and ecosystem.

LIMITATIONS:

As the technology develops this kind of GPS or other satellite positioning system may be obsolete tomorrow.

Other competition applications in the same segment.

Lack of infrastructure, lack of government support, lack development to able to adapt this technology faster.

LITERATURE REVIEW:

LR1

Article-June 2016

Author- Jehangir Bharucha, HR college of commerce, Mumbai- 400020.

Topic-Managing the problem of commuting in Mumbai

The objective of the paper was to have a solution on problem of commuting. The researcher has given a glimpse of population of Mumbai city & how it contributes to the problem faced by the people during commuting. The primary data has been collected with the help of a questionnaire to those who commute daily.

LR2

Article –June-2014

Author- Mr. Pradip Suresh Mane & Dr. Vaishali D. Khairnar, Terna engineering college, Navi Mumbai-400706.

Topic-Analysis of bus tracking system using GPS

The aim of this research is to show the technological background & exploring various ways of testing. This paper discovers various tools to track the bus. It also considers how problems related to commuting impacts on the life of commuters.

LR3

Article- Dec2013

Author- Mr. Pradip Suresh Mane & Dr. Vaishali D. Khairnar, Terna engineering college, Navi Mumbai-400706.

Topic – GPS-/GSM based bus tracking system.

The purpose of this research is to create a system of tracking public transport system using technologies like GPS,GSM etc. The system had specification & code for testing and execute.

CONCLUSION:

It will give a sense of agency & gratification to the commuters.

This will help the commuters to track, book e-tickets & pay the fares easily using e-payment platform even before leaving the house. The interface of app will help the passenger to see exactly how far the away the public transport is as well as seating availability in the public transport (in this case the bus) & help them to take right decision to choose an alternative mode of transport & therefore saving time of consumers as well as reducing & managing the crowd properly & even if the public transport is crowded & if the commuter chooses to travel in that same mode of transport he doesn't need to worry of buying ticket in that overcrowded situation because of having super easy method buy & paying fares online . People will be stress free they will travel stress free as well.

The idea is streamlining the public transport were it is today. As well as making the process of commuting hassle free & establishing a sense of discipline amongst

Commuters as well. It will also give a sense of agency & gratification to the commuters.

This will help the commuters to track, book e-tickets & pay the fares easily using e-payment platform even before leaving the house. The interface of app will help the passenger to see exactly how far the away the public transport is as well as seating availability in the public transport (in this case the bus) & help them to take right decision to choose an alternative mode of transport & therefore saving time of consumers as well as reducing & managing the crowd properly & even if the public transport is crowded & if the commuter chooses to travel in that same mode of transport he doesn't need to worry of buying ticket in that overcrowded situation because of having super easy method buy & paying fares online . After that we can introduce & connect all public transport to one another. Before starting your journey you can plan your journey and then you can make your journey successful and easy. It will also help public transport to improve & develop a magnificent infrastructure and ecosystem.

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3- Mr. Pradip Suresh Mane & Dr. Vaishali D. Khairnar, Terna engineering college, Navi Mumbai-400706.

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A STUDY ON AGRICULTURAL INSURANCE & SCHEMES IN INDIA

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ABSTRACT:

The development of agricultural insurance and different government schemes present in India is discussed in this study, as well as their critical evaluation and the mindset of farmers towards such schemes and insurance plans. India's agriculture is too dependent on unpredictable monsoon rainfall, making it vulnerable to risk and uncertainty. It discusses the many sorts of risks involved, as well as agricultural insurance and plans supplied by the state and central governments as a risk reduction tool in agriculture to protect it from natural disasters. In India, only 37% of farmers had sound financial literacy. There are many farmers who are still unaware of such risk mitigation schemes that are provided by the state and central government, including different insurance companies. The study also gives in-depth information about the mindset of farmers towards such schemes and insurance plans and how well these risk mitigation tools help them recover their losses.

KEYWORDS: crops, farmers, agriculture, government schemes

INTRODUCTION:

India's economy is predominantly agricultural, with two-thirds of the population dependent on agriculture. Despite being agricultural, it trails behind in terms of food grain output as a percentage of world production. One of the main causes is its sensitivity to natural disasters and seasonal adversity. Natural catastrophes such as droughts, floods, cyclones, storms, landslides, and earthquakes have a significant impact on agricultural productivity and agricultural revenue in India. The vulnerability of agriculture to natural disasters is worsened by diseases and man-made disasters such as fire, the selling of forged seeds, fertilizers, and pesticides, price collapses, and so on.

The study examines the various forms of agriculture insurance and government plans introduced by the government of India and various insurance firms in India.

The study discusses the numerous types of risks that are involved, as well as agricultural insurance and/or schemes as one of the risk mitigation techniques in agriculture for preventing natural disasters. This research reviews the performance of agricultural insurance plans

provided by the government of India.

RATIONALE AND GAP ANALYSIS:

The development of agricultural insurance and different government schemes present in India is discussed in this study, as well as their critical evaluation and the mindset of farmers towards such schemes and insurance plans. India's agriculture is too dependent on unpredictable monsoon rainfall, making it vulnerable to risk and uncertainty.

It discusses the many sorts of risks involved, as well as agricultural insurance and plans supplied by the state and central governments as a risk reduction tool in agriculture to protect it from natural disasters. In India, only 37% of farmers had sound financial literacy. There are a large number of farmers who are still unaware of such risk mitigation schemes that are provided by the state and central government, including different insurance companies. The study also gives in-depth information about the mindset of farmers towards such schemes and insurance plans and how well these risk mitigation tools help them recover their losses.

The study has been carried out in 3 different highly agriculturally based states of India, i.e., Maharashtra, Uttar Pradesh, and West Bengal. The farmers of these particular states have been interviewed about their opinions and thoughts towards such insurance and government schemes.

(Bhende 2002) states that a well-planned and administered agricultural insurance policy will protect many vulnerable small and marginal farmers from hardship, stabilize farm incomes, and enhance farm productivity.

(Hazell et al., 1986; Pomaded 1986; Mishra 1996;) The payment of indemnities in the event of crop failure allows the farmer to settle his debts, allowing him to keep his credit line with formal financial institutions intact.

(R. K. Ray 1987) says that the amount of knowledge and awareness among farmers is important for government subsidies to be successful. Crop yield insurance should be confined to crop yield and should not cover crop yield income directly. Insurance should be confined to a few main crops and selected places, but with a wide enough risk spread, and then gradually expanded to additional crops and areas. All significant natural disasters should be insured. The crop insurance system will become feasible by horizontally distributing the risk by registering all farmers in a locality in the scheme. The system should be appealing, credit-linked, and include assistance features such as a reinsurance package.

Dandekar (1976) found that the crop insurance scheme offered insurance against a chance occurrence. The chance phenomenon underlying a crop insurance scheme is the fluctuations

in the output of from one year to another or from one crop season to another.

OBJECTIVES:

- ❖ To study existing and earlier national agricultural insurance schemes implemented in India.
- ❖ To study the role of the government in implementing various agricultural insurance schemes.
- ❖ To study the effectiveness of agriculture insurance and schemes in India.

RESEARCH METHODOLOGY:

➤ Method of Data collection

Primary Data (Interview Method)

The farmers were interviewed personally through an online platform. The main objective of conducting this interview was to personally know how these farmers are financially helped through government schemes such as (Pradhan Mantra Kisan Samman Nidhi, PM Kisan Maan Dhan Yojana, PM Mantri Krishi Sinchai Yojana) and different agricultural insurances.

Secondly, to know how these risk mitigation tools are effective. The primary data contains all the basic personal questions about the respective farmers, followed by different framed questions.

The following are the interview questions which were asked to the farmers

- ❖ What is your annual income?
- ❖ From where do you get financial support?
 - Government Banks.
 - Private/ Co-operative Banks
 - Post Office
 - Other
- ❖ In the event of a natural calamity, your crops get destroyed, so in that case, how do you compensate for your financial losses?
- ❖ If you've not opted for any scheme or insurance, then how do you cover up your losses?
- ❖ If you are interested in opting for any government scheme, will you trust them?
- ❖ Is the compensation amount enough to cover up all the losses?
- ❖ How much money do you receive every month from government schemes?
- ❖ Are your machineries also insured under the same crop insurance scheme or do you have to opt for any other scheme of machineries?

❖ Are you aware of any of these major central government schemes? o Pradhan Mantri Kisan Samman Nidhi

- PM Kisan Maan Dhan Yojana
- PM Mantri Krishi Sinchai Yojana

❖ According to you which agricultural scheme is more suitable the state government or the central government?

❖ Apart from farming do you have other source of income?

Secondary Data (News Articles, internet)

The secondary data has been collected through different financial newspapers, journals regarding insurances, and research papers.

DATA ANALYSIS:

Every business carries risk, but farming is inherently riskier due to India's limited irrigation coverage, which makes it extremely vulnerable to weather conditions, particularly rainfall, which produces droughts or floods. Only 49% of farmed land was irrigated in 2015-16, with crop yields varying greatly. Crop disease-related production losses, as well as volatility in agricultural output prices, continue to be significant, resulting in farm revenue instability. Crop insurance is one technique to manage risk in farming.

Unseasonal severe rains have lately killed and destroyed people in certain regions of India. Overall, we have been fortunate as a nation with monsoons during the last three years. It is unusual for the South-West monsoon (from June to September) to remain normal for three years in a row. This season's rainfall has been average or slightly above normal, as it has been in the previous two years. With the non-farm economy suffering greatly as a result of the Covid epidemic, the agriculture sector's 3.6% growth protected the Indian economy from further decline.

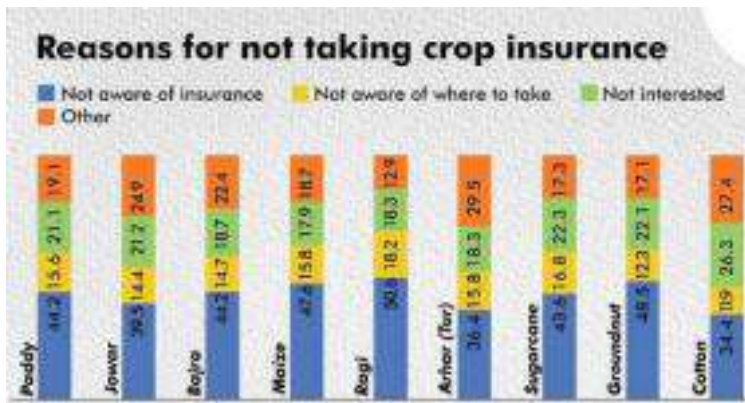
Despite the substantial risk and numerous attempts by government agencies, crop insurance usage remains low in India. In 2018-19, the cropped area under insurance was 26%, compared to the government of India's aim of 50% cropped area under insurance. This is despite the Narendra Modi government's overhaul of crop insurance schemes in 2016, when it introduced the Pradhan Mantri Fasal Bima Yojana (PMFBY), as well as revisions to existing schemes such as the Restructured Weather Based Crop Insurance Scheme (RWBCIS), and another

revamping of both schemes last year.

The insurance premium amount was taken from the loan amounts of all farmers who took out loans using their Kisan Credit Cards. Some farmers insure their crops independently, rather than as part of the agricultural financing package.

Farmers' premium payments are wasted if they experience a loss yet do not obtain insurance coverage. There is no need for a claim during a successful agricultural year, and the claim is not satisfied during a poor year. Even under mandatory PMFBY, while the percentage of claims settled is greater, payment delays are substantial. Recognizing the delays in settling claims and non-payment, the Indian government made PMFBY mandatory beginning in 2020, even for farmers who receive crop loans from official institutions.

GRAPHS AND CHARTS:



EXPECTED OUTCOME:

Many farmers from the states of Uttar Pradesh, Maharashtra, and West Bengal face financial issues during any natural calamity or any kind of uncertainty. To be more precise, this problem is common in all the states of India. To overcome this problem, farmers should be given basic financial literacy training, which will be helpful for them in an unexpected situation while

farming, cultivating, or doing anything related to agriculture. It has also been observed that a lot of farmers do depend on insurance schemes to protect their crops or cover losses due to any natural calamity. The schemes offered by the government are beneficial to farmers in covering their basic monthly necessities and much more.

BENEFITS TO THE SOCIETY:

- Farmers should be given basic financial literacy so that they don't have to face any kind of problems during any natural calamity or any uncertainty.
- The more financially literate our farmers are, the more beneficial it will be for the economic development of the nation.
- The farmers will not have to be under any kind of financial burden by taking any kind of unnecessary loans.

FUTURE SCOPE:

The future scope of this project is that it can be carried out in different regions and states of India and large, diverse data can be collected about the mindset of farmers towards these risk mitigation tools, which are provided by different insurance companies and governments. Also, we will get data about the financial literacy level of farmers in different states and regions of India.

LIMITATIONS:

The major limitation of the study was the destinations. A lot of farmers were not comfortable responding to questions about their financial status. The research could have given us more and clearer information about the mindset of farmers in different states towards government schemes and insurance.

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A STUDY ON IMPACT OF COVID ON KFC IN INDIA

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ABSTRACT:

The purpose of this project is to examine impact of covid-19 towards Kentucky Fried Chicken (KFC).

This paper is presenting what are the factors influencing impact on KFC. KFC is known as one of the most popular fast-food chains around the world. KFC India which opened around 30 new restaurants last year during the peak of the covid-19 induced disruptions, is looking at adding new outlets this year too as it looks to enhance access of the brand to its customers. Despite the Covid-19 disruptions KFC's have more restaurants now than they had in pre-COVID. During the year, their franchisees have opened new restaurants. So now they have a bigger business now than the pre-COVID Monday as the company suspended its "It's Finger Licking Good" tagline after 64 years, deeming it "the most inappropriate slogan for 2020" amid the coronavirus pandemic. This is because they think that using this program can help in prevention of the spread of COVID-19, and of course meeting basic human needs, namely food in the condition of COVID-19 safely and comfortably

KEYWORDS: - Covid-19 impact, KFC.

INTRODUCTION:

The duties of the KFC Customer Service Team include taking orders, greeting customers, and completing customer purchases in cash. To maintain satisfactory customer services of KFC, they provide some beneficial training and development for their workers (Puleka & Kakade, 2018). The company has provided its workers with a full training program to train them for providing a quick and efficient service to the customers who are queuing to take their orders either at the restaurant or at the drive-thru service. For instance, the workers of KFC only take 10 - 15 minutes to serve and take orders from each customer who is going to dine-in, take away, or by drive-thru system. Drive-thru service is provided in some of the KFC branches only, to make their customer easy and comfortable by the way to save their time too. Products and services play a vital role in all businesses. The quality of the services provided by each KFC branch is one of the main factors for KFC to increase their customer satisfaction over years, as its actual product not only consists of quality chicken but also a satisfactory service to its target customers. In general, a product is defined as the manufacture

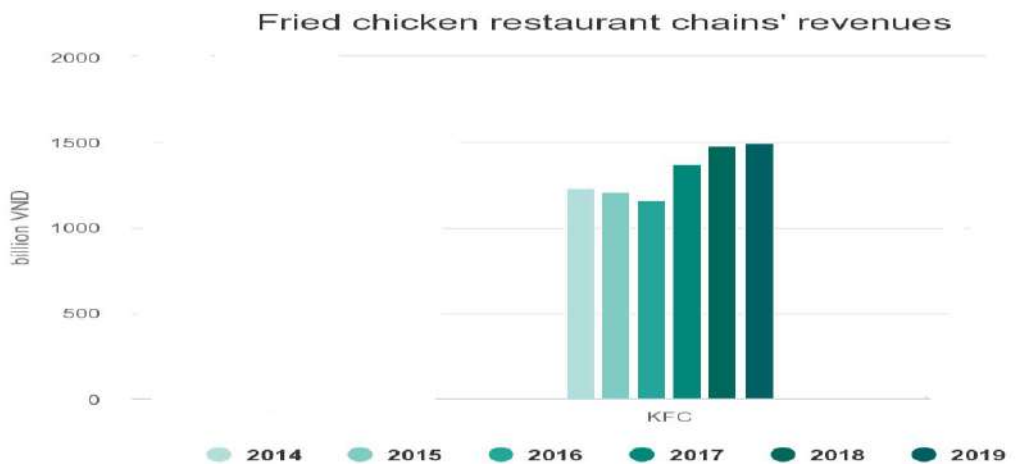
of a product or service sold on the market by a company (Asman et al., 2020). As we know nowadays the market is highly competitive and important for fast-food restaurants such as KFC to improve their food and service quality to compete and survive in this industry (Namin, 2017)

OBJECTIVES:

- To study the impact of KFC during pandemic.
- To understand how KFC used to work before and after covid
- To know the current strategy of KFC

DATA ANALYSIS:

The India unit of global restaurant chain KFC, owned by Yum! Restaurants, reported 2% decline in system sales for the first quarter ended March 31, 2020, down from 26% growth in the same quarter last year, amidst the ongoing lockdown. Pizza Hut India, also a Yum! Restaurants brand, reported a decline of 6% in system sales in the first quarter, as restaurants resorted to delivery only to comply with the national lockdown, leading to a complete shutdown of malls and restaurants. Yum! operates KFC, Pizza Hut and Taco Bell across over 1,000 restaurants in India. System sales imply sales at outlets that have been open for at least a year.



KFC India managing director Samir Menon said: “Subdued growth in March and softness is on account of the lockdown. We continue to operate around the ongoing Covid-19 pandemic with our delivery business only amidst the lockdown situation in the country as we comply with all regulatory directives. “In post earnings call for the October-December 2019 quarter, Yum! Restaurants had named India, Canada, Japan and Europe as markets with internationally strong sales momentum for the year. Yum!, which follows the global strategy of doing away with capital-intensive operations to instead focus on brand growth and development, competes aggressively with Domino’s, McDonald’s and Burger King.

In India, while Pizza Hut is already entirely franchised, KFC's company-operated footprint is under 10%. It operates its franchise operations between two partners - Devyani International and Sapphire Foods, set up by a consortium of funds led by Samara Capital.

KFC India, which opened around 30 new restaurants last year during the peak of the COVID-19-induced disruptions, is looking at adding new outlets this year too as it looks to enhance access of the brand to its consumers.

Despite the COVID-19 disruptions, he said, "We actually have more restaurants now than we had in pre-COVID. During the course of the year, our franchisees have opened new restaurants. So we actually are a bigger business now than we were in pre-COVID in terms of number of restaurants."

Before COVID-19 hit, KFC India had a restaurant count of about 450 and at present it has over 480 restaurants in more than 130 cities across India.

REVIEW OF LITERATURE:

Understanding Marketing, according to Stanton (2001) marketing is a system.

the whole of business activities aimed at planning, determining price, promote, and distribute goods or services that satisfy a good need to existing as well as potential buyers. According to Kotler & Armstrong (2012)

marketing as a process by which the company creates value for customers and builds strong customer relationships to capture value from customers in return.

According to Sudaryono (2016) marketing is a management process that seeks to maximize profits (Returns) for shareholders by building relationships with major customers (valued customers) and create a competitive advantage. Marketing is a business process trying to align the human, financial, and physical resources of the organization with the needs and wants of customers in the context of a competitive strategy.

KFC India Managing Director Samir Menon said in The Hindu times(2021) , "Before COVID-19 hit, KFC India had a restaurant count of about 450 and at present it has over 480 restaurants in more than 130 cities across India."

Hilman, Ghani, & Hanaysha(2015).

KFC first defines customers' likes and dislikes and also the culture of each race before the launch of a new product. For example, in the view of religious perspective, Malaysia and Indonesia KFC are introducing Muslim Halal Food while vegetable burgers are available in India KFC, only beef is not

served to Indian customers as their culture and beliefs are different. Therefore, customer loyalty will be achieved when the products or services provided by Kentucky Fried Chicken (KFC) can fulfill the needs of the customer.

It also leads to an increase in customer satisfaction of KFC at the same time the sales growth of the company will also increase automatically as customer satisfaction increases.

CONCLUSION:

KFC India, which opened around 30 new restaurants last year during the peak of the COVID-19-induced disruptions, is looking at adding new outlets this year too as it looks to enhance access of the brand to its consumers. With the pandemic bringing about a change in consumer behaviour with online orders and off-premises consumption growing, KFC India has also accelerated its efforts to address the changing consumer needs. On the other hand, in-premise consumption is yet to recover fully to pre-COVID levels and will take longer.

And with the second wave of COVID-19, the company is better prepared with the learnings from the year, especially on safety and hygiene protocols for dine-ins and operating through contactless deliveries. The services and products of Kentucky Fried Chicken (KFC) give a big impact on consumer satisfaction. Our findings show that most of the consumers are satisfied with the current services and KFC products. Also, most of the consumers knew KFC from social media. This underlines the power of the internet and social to let people easily know new things faster. Mostly, the customers are more likely to order KFC's fried chicken than KFC's burger mostly because the customers prefer its delicious taste with spicy and original flavor. However, the problem that occurs in KFC is all the foods are mainly high-calorie and none of the customers believed that the food is healthy. They will only buy KFC's product once a month or rarely buy the product. On the rating of satisfaction section, mostly the customers are satisfied with KFC services and products and fewer of them are unsatisfied. Thus, they recommended KFC improve its services

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A STUDY ON MBA CHAIWALA HAS GENERATED NATIONAL AND GLOBAL BUZZ IN THE MARKET

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ABSTRACT:

The MBA CHAIWALA Marketing team always runs their campaigns with word of mouth and PR strategies, digital marketing, ongoing trends, and memes marketing. They have developed a quality product line with various options to choose from. Keeping in mind that, they have to provide the fast & efficient service to their customers. Indian tea is consumed by every age group in India and in most homes. Their focus is on providing healthy and hygienic tea and snacks to their customers at reasonable prices to people of all age groups. Advantages of opening MBA are Brand Recognition, Operations Insight, MBA CHAIWALA franchise Cost Optimization. All these advantages are explained in detail in this project

Keywords: MBA CHAIWALA, assignments, Brand Recognition, franchise.

INTRODUCTION:

Our years ago, Prafull Bill ore, a 20-year-old B. Com graduate from a village in Madhya Pradesh arrived in Ahmedabad with plans of starting a business that would help him overcome the disappointment of not getting an MBA seat in any of the prestigious business schools in India. Within three months, he set up a roadside tea stall borrowing Rs 8,000 from his father and christened the shop with a quirky name, MBA Chaiwala. (The MBA in the name stands for Mr Billore Ahmedabad). On the first day he made a sale of Rs 150, and there has been no looking back since as his business took off.

He has tried many new things; including selling tea at political rallies, naming the tea after the programmers initiated by the parties, and by FY 2019-20 the turnover had touched Rs 3 crore.

Prafull's business model grabbed the attention of the media and an invitation to address the students at IIM Ahmedabad, where he had dreamt of studying once. He chalked out a new course, dreamt a new dream and now shares his success stories on various platforms to motivate others, when many people his age are still looking for a job.



Real name	Prafull Billore
Nick name	Billore, MBA chaiwala
Profession	Entrepreneur, businessman, & Social media influencer
Date of Birth	14 January 1996
Age	25 Years (as in 2021)
Hometown	Indore
Birthplace	Dhar, Indore, Madhya Pradesh, India
Religion	Hindu
Nationality	India
College	IIM, Ahmedabad
Education Qualification	B.com


Family	<p>Mother Name: Mrs Billore</p>  <p>Father Name: Mr Sohan Billore Sister Name: Update Soon Brother Name: Update Soon</p>
Social Media	<p>Instagram: prafullmbachaiwala Facebook: Prafull141 LinkedIn: Prafull Billore</p>
Website	<p>www.mbachaiwala.com</p>
Net Worth	<p>3 Crore +</p>
Contact Number / Phone Number	<p>+91 8770565569 +91 7859898211</p>
E-Mail	<p>Info@mbachaiwala.com Franchise@mbachaiwala.com</p>

Table information of MBA chai Wala

In fact, he started earning even while studying. While doing his graduation in commerce, Prafull made a mark as an ace Amway salesman earning up to Rs 25,000 per month.

“I was able to balance work and studies because an average student has lot of time in his hands, since he doesn’t have to worry about studying too hard and competing with the toppers,” he chuckles.

He sold products and enrolled new members for the company. But he quit the job after around a year since he found no prospects in it. That’s when an acquaintance told him about MBA and CAT (Common

Admission Test) exams, and he decided to give it a shot. Prafull Billore is a young Indian entrepreneur and YouTuber who has built his own tea selling company. He says his dream is to sell tea in every part of India.

He was born in Indore, Madhya Pradesh but now he conducts his business from Ahmedabad, Gujarat, India. His YouTube channel name MBA Chai Wala is just short for Mr Billore Ahmedabad Chai Wala.

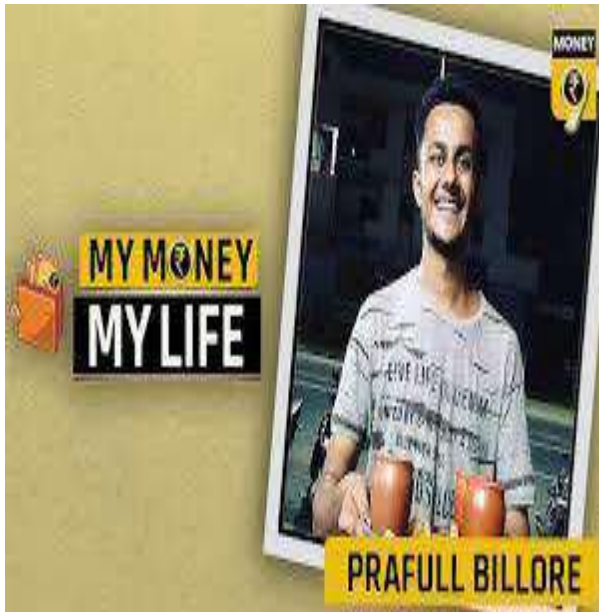
OBJECTIVES:

To examine the process of franchise.

To understand revenue generation.

To know Brand Recognition.

To understand government benefits.





MBA CHAI WALA PVT LTD - AHMEDABAD ROI SHEET

SALES VS EXPENSES

Note:- All the figure are based on tentative calculations (35% food cost and 65% profit)

FRANCHISE PROJECT COST- 20 LAC+ GST

		BREAK EVEN SALE	AVERAGE SALE	MAXIMUM SALE
PER DAY SALE		10,000/-	15,000/-	20,000/-
PER MONTH SALE		300,000/-	450,000/-	600,000/-
FIXED COST	Electricity	10,000/-	10,000/-	10,000/-
	Rent	50,000/-	50,000/-	50,000/-
	Salaries	50,000/-	50,000/-	50,000/-
	Other	5,000/-	5,000/-	5,000/-
	Total	115,000/-	115,000/-	115,000/-
VARIABLE COST	Raw Material	105,000/-	157,500/-	210,000/-
	Wastage@1%	3,000/-	4,500/-	6,000/-
	Total	108,000/-	162,000/-	216,000/-
TOTAL SALE	Gross Sales	300,000/-	450,000/-	600,000/-
	Fixed Cost	115,000/-	115,000/-	115,000/-
	VARIABLE COST	108,000/-	162,000/-	216,000/-
PROFIT PER MONTH		77,000/-	173,000/-	269,000/-
PROFIT PER YEAR		9,24,000/-	20,76,000/-	32,28,000/-

At the age of 20, after getting heartbroken by CAT, Prafull took a trip across India, staying in big cities like Bangalore, Mumbai etc.

Following in the footsteps of wealthy American people, he worked at McDonald's and after contemplating for 50 days, he opened a tea stall which he used to run at night for a few hours. On his first day, he made 300 rupees in total sales but on the second day he came up with a strategy of talking to people and offering them chai in English. Everyone immediately paid attention to him wondering who this guy was selling chai and talking in English, that too cheerfully.

Very soon his side hustle became his main business, a lot of hardships came in his way, but he decided to stay strong and carry on. He wanted to do more and one of his ideas was to put up a whiteboard where people who needed jobs could write their number and other customers who needed employees; this enabled his tea stall to connect people.

Mr Billore Ahmedabad Chai Wala has organized numerous events [namely, 'FREE CHAI FOR SINGLES' on Valentine's Day; poetry/ singing nights 'MEHFIL – E – KAVITA', many sessions hosted by honourable

individuals who educated the youth about ENTREPRENEURSHIP; Fundraisers for cancer patients, underprivileged people, Kerala flood relief funds; Conducted political campaigns with Delhi and Bihar Governments respectively.

The whole brand has been acknowledged, talked about, and credited with honours by big media agencies like BBC, CNN, Scoop Whoop NDTV, TEDx, Aaj Tak, ABP, CNBC,



He has been invited to talk at IIMs, IITs, Josh Talks, TEDxMDI Gurgaon, TEDxKIET [alongside NITIN GADKARI], Lovely Professional University and other educational identities. He has also gotten published in the book 'ALL YOU NEED IS JOSH', among other world-famous entrepreneurs.

Prafull Billore Money Factor

It is estimated that Prafull Bill ore has a net worth of approximately 30 million rupees.

Net Worth	Rs. 30Million
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MBA Chai Wala (Prafull Bill ore) is expanding very fast. They are investing money in different businesses other than franchises, like eCommerce platforms, chai Patti, events, weddings, fund-raising, political campaigns, supply, and social media, and digital marketing companies. They have also started an MBA Chai Wala Academy, where they teach entrepreneurship and mentoring to small businesses. In 2017, Prafull Bill ore began his tea stall with 8000 rupees and encountered numerous challenges. His business had many ups and downs, but Prafull never gave up and approached his tea business with a positive attitude. Today, in 2021, the annual turnover of MBA Chai Wala is more than 5 crores, and it is increasing day by day.

MBA is an Ahmedabad-based brand of tea, which has made more than 11 tea shops from one tea

MBA Chai Wala Franchise Cost	3 Lakh
Area Required for MBA Chai Wala Franchise	100 Sq. Ft.
Overall Investment for MBA Chai Wala Franchise	Approx. 10 Lakh
MBA Chai Wala Model	Kiosk

shop in Ahmedabad all over India in the first 2-3 years, where they have got complete lockdown and they are preparing to make more and expand their business internationally.

Their service is very good, their quality is very good, and the look of their tea shop is very attractive, so if any customer comes, he will not go back without taking a selfie.

Youth who failed to get MBA seat, sets up tea stall with Rs 8,000 and achieves Rs 3 crore turnover in 4 years

Prafull Bill ore, who started from a roadside tea stall, has now built a Rs 3 crore turnover F & B business (Photos: special Arrangement)

His story can be an inspiration to anyone who has failed to achieve their dream and has given up on life



Benefits Of MBA Chaiwala Franchise

Chai Wala: Chai Bolo Chai, Chai Garam Garm, Elaichi Vali Chai, that's not what MBA Chaiwala is doing here, what is their style?

Let's narrate the story of Bunty who visited MBA Chaiwala, he thought it was an Arts and Cultural Organization for the first time, a second time LinkedIn office. The third time that he believed it to be a Tomorrowland Concert, making Bunty so confused.

The philosophy behind MBA Chaiwala is to depict the lively and diverse atmosphere, expressing poetry, humming songs from Bollywood, making jokes. And a general atmosphere that, at the same time, has a good feeling, happiness, and warmth.

Beloved among young people.

Million views, Millions reach.

It's an experience, an emotion, an opinion, a position.

Social effort for better India, network, and connectivity.

Attractive Marketing Campaign, buzz campaign.

Engagement year-round activities.

Efficient national, regional, and local marketing

Design of shop layout

Less equipment

Easy Management of inventory

Set-up and implementation of SOPs

Infrastructure Accessible

Bare minimal personnel expenditure

Costs for Zero Installation

Moveability in one place

Minimum Bare Rent

Setup for low cost

Fast food supply

Prepacked spices that can be made for everyone

How business model of MBA Chai Wala Franchise works –

They use KIOSK MODEL to prepare their various chai cups now with the help of machines to maintain efficient procedures and keep sanitization up to the mark.

Furthermore, this approach enables to maintain food hygiene and decreases operational costs. In effect, the products get affordable, And the franchise gets a good margin in selling products.

MBA Chai Wala menu-

MBA CHAI WALA [®]		
BEAT THE HEAT		
COOLERS		
COLD COFFEE	60	
COLD BOURNVITA	60	
OREO SHAKE	90	
LEAMON ICE TEA	60	
CHAI		
MBA SPECIAL	20	
ADRAIK	25	
ELAICHI	30	
GREEN TEA	30	
CHAI OF THE WEEK	40	
SANDWICHES		
CORN FEASTA	120	
INDIAN MASALA	120	
CHEESE CHUTNEY	100	
PANNER CHILLI	140	
MUSKABUN		
AHMEDABAD BUN	40	
CHOCOLATE BUN	50	
CHEESE CHUTNEY	60	
CHEESE MAYO	60	
MAGGIE		
CHEESE VEG MAGGIE	80	
DOUBLE MASALA	60	
BUTTER MAGGIE	60	
FRIES		
PERI PERI FRIES	80	
CHEESE FRIES	100	
COFFEE - HOT		
HOT COFFEE	40	
HOT CHOCO COFFEE	50	
HOT VITA	50	

Their Specific Customer Segment –

As we all know, Indian tea is consumed by every age group in India and in most homes. Their focus is on providing healthy and hygienic tea and snacks to their customers at reasonable prices to people of all age groups.

Advantages of opening MBA Chai Wala Franchise –

- 1) Brand Recognition – The best advantage of having an MBA CHAIWALA Franchise. The brand has already marked its name and value recognition and it is growing rapidly in the Indian food and beverage industry. By providing its customers quality tea, coffee, and snacks at affordable costs.
- 2) Operations Insight – Operations of the franchise are hassle less. And, it comes with easy operational procedures and Operations. Manuals will be shared with the franchise owner. Also, you will get full support in setting up the store and required assistance in every part of the business.
- 3) MBA CHAIWALA franchise Cost Optimization – Brand opts for low-cost business operation procedures and is molded according to the market’s needs.

What are the required experience and legalities for MBA Chai Wala Franchise in India 2022 –

EMPLOYEES – You will need around 2-3 staff for your outlet to operate. As result, the franchise is having its own training sessions for newcomers in the hospitality industry.

Firstly, the company will provide all the training to the staff and facilities required to operate an upcoming franchise and support any business need. They will be in touch every time.

Secondly, Staff will learn guest service and gets trained for work area at fast pace environment.

SPACE REQUIRED – Carpet area is required around 100 to 150 (Sq ft) to open a kiosk in a populated place.

LICENCES – Definitely, the franchise requires approvals to run a business without any problem. Thus, the team will help you out with all the licensing procedures.

DOCUMENTS – Adhar card, Pan Card, Bank details, Passport size photos. Please visit if you want to know about food licenses in India – Food Safety and Standards Authority of India.

Cost for opening MBA Chai Wala Franchise in India –

Franchise required investment –

Investment	Rs. 8-10 lakhs (including Equipment)
Franchise Fee	Rs. 3 lakhs
Model	Kiosk
COMMISSION/REVENUE SHARING	40-50%
AGREEMENT TENURE	3 YEARS

Shop rent, Maintenance charge, Additional bills, all will depend upon your chosen city and area for opening the outlet.

However, 10LAKH Rs would be sufficient for opening MBA CHAI WALA Franchise.

Agreement requirements for opening MBA Chai Wala Franchise in India

Company mostly prefers agreement period upto 5 years. Comparatively its good than other brands in market. they prefer 10 years of agreement period with high franchise cost.

Space required around 100 – 200 sq. ft

Franchise Fees would be INR 3 Lakhs

Space rent for good locality costs approx. (INR 2- 5 Lakhs)

Maintenance and other related cost Rs 1 – 2 Lakhs

Total Franchise Cost Rs (7 – 10 lakhs)

Check out here for the budget Friendly Fast-food Franchise in 2022 – (Wow Momos)

How to apply for MBA Chai Wala Franchise –

The easiest way to get in touch with them directly for opening an MBA Chaiwala franchise is by visiting their website and filling a contact form over there. Everything you have to do is online you don't have to go somewhere for applying it. then within a few business days, they will contact back to you on your given phone number, be ready with the mindset of setting store if you're already arranged the required amount. their team will help you with further procedures and kudos it's done.

FINDING AND SUGGESTIONS:

He should introduce his products to the market along with the talk of motivation.

He should try to bring new products in his shop and such products which are on demand in the market.

Minimum terms and conditions should be kept for the people who are interested in his/her franchise lane and should decide.

Always decide how he can denominate foreign currency.

According to the need of the customer and the demand of the market, your products should be determined.

You should open your business branches in more crowded places.

You should bring changes in your plan by focusing on the services of your employees.

It is necessary to bring a quick decision by understanding the situation and think once before avoiding the suggestions of the people.

The position of the job should be given to the person according to his/her knowledge and experience and should increase the salary and the position time both.

If the customer should be treated properly, he should sing well with him.

To make your product famous in the world, you should do advertising, sponsoring, shows, meetings.

CONCLUSION:

We all can say that Chai (tea) is a beverage of Indian culture. and the food & beverage industry in India is always in the demand segment and this homegrown brand MBA Chaiwala, one of India's iconic and innovative chai franchises, provides a decent return on investment and operational costs are low.

The journey to success is never easy. It takes hard work, dedication, time, and commitment to achieve it. Want to be successful in your life? Is pursuing an MBA from a reputed institution your dream?

MBA also served as a metaphor for his ideal degree, and he has been marketing tea under that name. He continued to introduce new techniques at his new set up, such as placing a whiteboard near a tea stall for folks to contact job searchers and employees. "Whatever you do it with full honesty and hard work and success follow. If you are a shoemaker, be the best shoemaker there is and if you sell tea then be best at it. Whatever you do, give it your best." Prafull said in one of his motivational speeches on YouTube.



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A STUDY ON OLA THE STORY OF MILLIONAIRE WITHOUT CAR

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The start-up business always played an important role in global economy. Their importance has recently grown significantly. Government around the whole world amended, created incentives and regulations to encourage their development. However, statistics shows that the start-up have an extremely high rate of morality. The revised marketing strategy is a key opportunity for brand success and the growth of its value on the market or in consumer minds. Data was collected from Mumbai and specifically from working professionals. After data collection, statistical analysis showed that female prefer Uber service over Ola but while it comes to safety consumer feel more safe with Ola than Uber. Result of this study may help the taxi service industry to design their future marketing strategies. Radio Taxi business is extending in India. The report gives the full "knowledge about the business sector and the emergence of the company having the highest market share that is OLA cabs. Talking about our chosen organization OLA cabs it is a youthful and lively organization situated in Mumbai a great deal more centred on utilizing innovation to bring the base productivity and client experience to the auto rental industry that anybody anticipates from flights

KEY WORDS: Ola cabs, start-up, promotional strategy.

INTRODUCTUON:

Managing and growing a successful Please answer India start-up is ripe with challenges from all sides from keeping employees and investors happy, to raising money and constantly improving your bottom line. Not every start-up is bound for success. In actuality, getting money from an investor is no easy feat, but when you know what states are the most investor friendly, what investors are looking for and how to build a powerful team around your organization then you are much more likely to find start-up success. Ola Cabs, more popularly known as Ola, Ola is just like any other marketplaces online, but more specifically into providing Taxi services. Ola, which starred as an online cab aggregator in Mumbai, now resides coming back to the man behind Ola, simple yet charming Bhavish, with the success of his prodigy has certainly become the talk of the town. But even after becoming a

millionaire, he still prefers to not buy a car and take a cab. Certainly doesn't go down well with his wife. He believes that, such is a small price that every entrepreneur has to pay.

The middle class population in India rose from 15 million in 1991 to 160 million in 2011. This segment with its increasing disposable income started demanding and has been willing to pay for better services across sectors including private and public transportation. Business Process Outsourcing (BPO) industry has given a huge push to the car rental industry in India till 2003. But in 2003 the Radio cabs business emerged as one of the fastest growing businesses in the Indian transportation. Rolling under the Mega Cabs brand in cities such as Bangalore, Mumbai, Calcutta, Chandigarh, Ludhiana and Amritsar.

Concept of organized rental cab was introduced to Indian consumer in 2004 when Meru cab service was launched in major metro cities of India and then almost after six years App based rental cab service was introduced in Indian market.

As customers have become more demanding it's a challenging job for rental cab industry to meet the customer's expectations. Now a day's not just the price but quality service also plays an important role in customer satisfaction. Now using a smart phone consumer can access, compare, evaluate and purchase. In this situations App based services such as Ola or Uber Cabs offered solution by offering various services ranging from the economic to ultimate luxury. As per a current report in the financial express introduction of App based pre-paid taxi services like Uber and Ola taxi not only grabbed customers' attention but also contributed in increasing employability by providing opportunity to drivers.

Ola cabs service was started in 2010 in Mumbai by ANI Technologies Pvt. Ltd. based on online cab aggregator concept. Ola offers range of affordable transportation service starting from superior luxury cars to Ola auto. Currently it is available on 102 cities and approximately 450,000 vehicles are available with them.

OBJECTIVES:

- To understand the reasoning behind the starting up of their business enterprise. ➤ To understand the challenges that came before this great company over the last decade or so, both financial and non-financial.
- To identify the consumer perception towards safety of Ola services. ➤ To understand the steps, efforts, work and solutions the company.

REVIEW OF LITERATURE:

As we all know that behind every successful brand or even any successful person there was a challenge which they confronted in the beginning. Hence, the same happened in this case.

1. At first, the creators Bhavish Aggarwal and Ankit Bhati had to confront countless obstacles.
2. They struggled long hours, even sometimes the co-founder of Ola Ankit had to code for 48 hours straight.
3. Even some of the time they have had to drive the client to their locations as the drivers had not arrived. However, this didn't deaden their confidence. They worked day and night and finally, people began loving their services.

Prof. Manjunath g (2015) explores the brand awareness and customer satisfaction toward Ola Cabs in Bengaluru region (South and North regions). Ola cabs has created a good brand image in the minds of customers concerned with personal transportation services compare to Uber and Merucabs in Bengaluru. He concluded that market for OLA Cabs depends on the customer preference, creating awareness and customer satisfaction. The factors such as convenience, brand, low cost, quick and safe, easy to book and timely pick and drop facility etc. influences the customer decision to opt for OLA cabs. Ashim Gupta & vivek singh tomar(2018) explored reasons for which people use application-based taxi services. The reasons, such as, safety, price, easy availability of taxis, cashless option and transparent charges are

the main reasons to use app-based taxis (OLA). Ola and Uber must take care of the aspects above while improving their services. Customer may get disconnected due to increasing prices or removing service quality parameters. Safety assurance is also equally important. Focusing on the satisfaction of the consumer through enhanced service quality enables to survive the stifling competition in market Dr. Ashok Kumar Panigrahi, Shambhavi Shahi, Amarsingh Rathore (February. 2018) In their paper explain Ola now has shifted its focus on target markets and is focused on providing desired service to the people in the target market. The key element in making Ola a successful brand is the efficient and quick accessibility which is offered by the firm. On one hand Ola promotes its brand by traditional methods and on the other hand it also uses the modern techniques of promotion. At the same time, it does not forget to highlight its name in social safety, creating social awareness and promoting acts of humanity.

Call taxi system in India has grown significantly in India and infrastructure growth, growth of middle class, increasing disposable incomes and growing GDP are some of the factors responsible.

Other variables continuous service, comfort, reliability and affordability have an impact on customer satisfaction with regard to minicab taxi. Consumer not only use cab service for commutation but also for visiting a shopping mall, attending late night party or going out on special occasion. Study also showed that customer satisfaction level is very high, showing positive sign for future growth and expansion of business.

Therefore, it would not be that easy for the company Ola to operate in an environment which has to be more customer-centric & target oriented, highly innovative, and have resistant to pressure from the regulatory authorities and keep delighting their customers.

DATA ANALYSIS:

In Ola share, if you are frequent traveler on a route, and if the time matches with your routine, you get a notification of a ride on your way. If you ignore that you will get notification along with discount in future. Also they will start giving you notification ahead of your daily schedule along with discount.

Next you stop using the Ola app or say share or micro/mini rides, you will get specific user offers but if you are using it loyally soon offers will vanish. They have also started clubbing people travelling to same office/destination together in share but sometimes because of this they take cab to off route too, which is degrading the quality of product.

Next the Ola money. Alert for low balance depending on normal cab fare you get. Also you will get offer on Ola money only for the recharges higher than the usual recharge you make. They have come up with "Select" member profile where they provide additional facilities like cab which you will get will have so and so things,

which again they have segregated on basis of user feedback for the cab's and drivers. They have upgraded the device for some of the cabs to tab and providing precise tracking feature on the cabs.

Strengths

- Ola is first of its kind taxi aggregator service provider in the country. ➤ It achieved the no.1 rank in the sector after acquiring Taxi for sure. ➤ The services offered by ola are well appreciated by the public
- TV, online and print media marketing has helped to create awareness about the company.
- Increase in customer base due to strong network effect.
- Financial condition of the company has improved after investments by various firms.

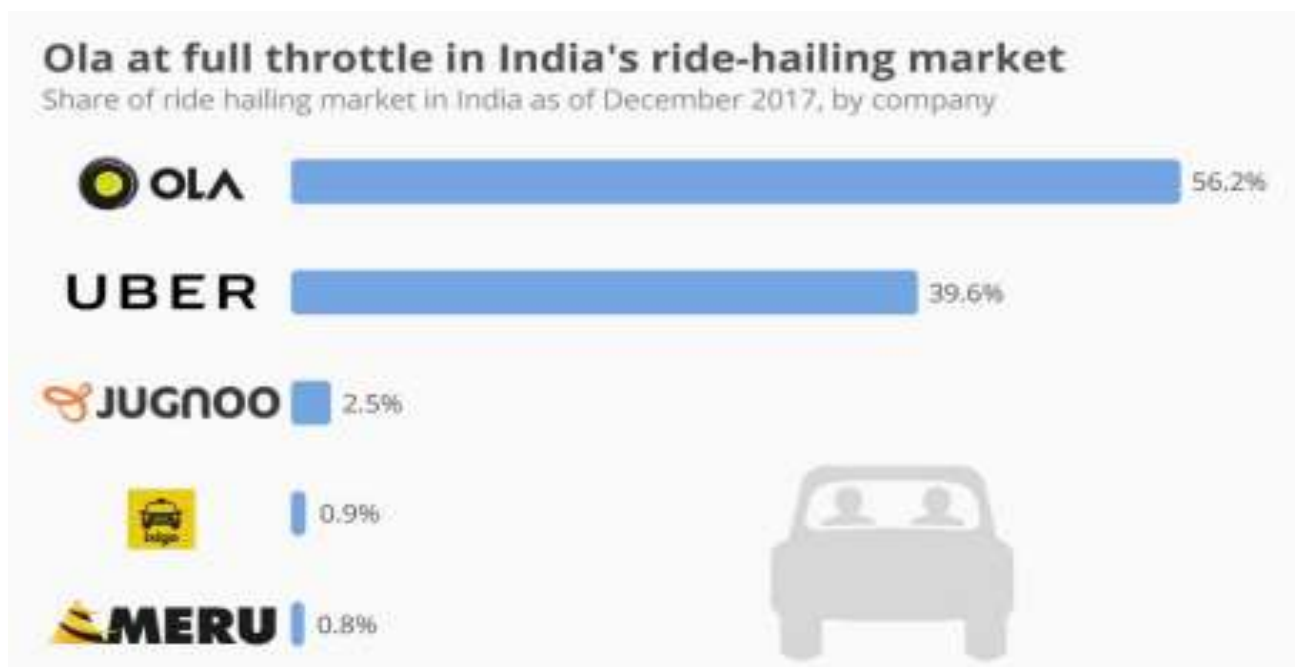
Weaknesses

- Brand image can be easily influenced by the misbehaviour of the drivers as they are the in direct contact with the customers.
- Monetization becomes difficult due to the demand.

TABLES AND GRAPHS:

Over the last decade, India's highways have become increasingly congested with taxis as the country's ride-hailing sector has grown in popularity. On these ride-hailing highways, though, it appears that there is no stopping the two giants Ola and Uber.

Ola, which was founded in 2011, has a larger geographical network than Uber. With a presence in 110 locations, the Ola app is likely to have a larger reach due to its support for a few of regional languages. The ability to accept cash payments and provide several economic classes of taxis and auto-rickshaws provides Ola an advantage. It has also overcome India's poor broadband connectivity since 2016 by enabling bookings via text texts.



Performance of Ola during the pandemic period:

Like many other sectors, ride-hailing businesses were also adversely impacted by the Covid 19 pandemic that confined people within their homes. With offices shut and minimal people like frontline workers being allowed to travel, cab aggregators saw their revenues declining sharply last year.

In September, Ola co-founder Bhavish Aggarwal had said the company's GMV (gross merchandise value) had crossed pre-Covid levels, and the recovery from the second wave had been three times faster compared to that after the first wave.

He had also noted that Ola had added 10 million new users in 2020-21, and that the company is working on onboarding more driver-partners, entering new cities, and building new products to better serve mobility needs post-Covid.

In May last year, Ola had laid off 1,400 staff from its rides, financial services and food business as revenues declined 95 per cent in the preceding two months due to coronavirus pandemic. IPO prospects

Ola is reportedly looking at raising \$1-1.5 billion (₹7,324-10,985 crore) via an initial public offering and is expected to file the DRHP (Draft Red Herring Prospectus) in the December quarter.

Ola had narrowed its consolidated loss to ₹2,208.23 crores in FY20 from ₹2,592.93 crores in FY19. On a standalone basis, the losses expanded to ₹1,714.62 crores in the year ended March 31, 2020 from Rs ₹1,160.27 crore in the preceding fiscal.

The company saw its total income rising 2.2 per cent to ₹2,845.33 crores on a consolidated basis, and by 4.8 per cent to ₹2,259.29 crores on standalone basis in FY20 as compared to the previous financial year, according to the documents that were accessed by market intelligence firm Toffler.

FINDINGS:

- To know the company had gained millions of customers as well as some very incredible business deals.
- To study the Motivational factors which drive people to use Ola cab services. ➤ Study on the overall analysis of Ola services and what exactly people think about Ola.

SUGGESTIONS:

- Need to improve frequency of cab.
- Price hikes during rains are way too much, I would recommend to cut short those at least for 'not so long' rides.
- Frequency in rural areas should be increased.

CONCLUSION:

Ola has been a tremendous growth in the taxi market sector. There is surely no looking back for Ola as it is improving day by day in every prospects. Ola has successfully achieved public support and has created a buzz about its brand in the market. Furthermore, if some more technological advancement is done at Ola then the customer base can be increased by providing better experience to the customer. Ola now has shifted its focus on target markets and is focused on providing desired service to the people in the target market. The economic segregation depending upon the income group and requirement of the people is well appreciated. On one hand Ola promotes its brand by traditional methods and on the other hand it also uses the modern techniques of promotion. At the same time, it does not forget to

highlight its name in social safety, creating social awareness and promoting acts of humanity. The key element in making Ola a successful brand is the efficient and quick accessibility which is offered by the firm. The firm not only improves through its intense promotional activities but also due to the services and comfort offered to users and employees. A single tick gets you a taxicab. Habits are less demanding to develop when the change required in conduct is minor. What's more, once a habit is shaped, it's difficult to backtrack.

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A STUDY ON ROLE OF IKEA IN INDIA3

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ABSTRACT:

According to a study by World Bank, India's organized furniture industry is expected to grow 20% per annum over the next few years and is projected to cross \$32 billion by 2019. Online home décor market in India is projected to grow at a CAGR of 50.42% in revenue and the luxury furniture market is expected to garner \$27.01 billion.

Global corporations view India as one of the key markets from where future growth is likely to emerge. The growing purchasing power and rising influence of social media have enabled Indian consumers, and this is evident by entry of big players like H&M, Zara, IKEA, Decathlon, etc.

This paper aims to capture the essence of India as a marketplace and consumer psychology analysis. This has been done with a special focus on IKEA-a global furniture company. IKEA, with the opening of its first store in India (in Hyderabad) has paved way for a completely new experience in furniture market for Indian consumers. This paper aims to study IKEA both as a global and an Indian company. The purpose is to reflect on how IKEA fits into the Indian consumer market and vice versa.

KEYWORDS: Consumer, IKEA, India, Psychology.

INTRODUCTION:

IKEA is a Swedish multinational business with a Dutch headquarters that produces and sells ready-to-assemble furniture, kitchen appliances, and home furnishings, as well as other goods and services. IKEA, founded by 17-year-old Ingvar Kamprad in 1943 in Sweden, has been the world's largest furniture shop since 2008. The company is noted for its modernist designs for various appliances and furniture, as well as its interior design work, which is frequently connected with an ecofriendly simplicity. IKEA is also noted for its attention to cost management, operational minutiae, and continual product development, which has helped the company to reduce its pricing by two to three per cent on average.

In Hyderabad, India, IKEA launched its first shop. IKEA's largest store in the world, measuring 65,000 square meters (700,000 square feet), opened in the Philippines in November 2021 at the Mall of Asia Complex in Pasay City.

In this study, we are going to know what makes IKEA choose India? And what is the strategy used by IKEA in India to attract Indian customers? And what are the difficulties faced by IKEA in the Indian market?

REVIEW OF LITERATURE:

1. According to Barnes (2003) it is important for companies to view relationship from their customer's perspective. The relationship consists of more than just the customers buying product and service regularly. This is due to customers being aware of the difference between; repeat buying, based on convenience, non-emotive factors like price or situations where the customers return repeated times to the same company or brand because they have a special feeling for them.
2. According to Hu and Jasper (2006) Ikea has since the early years of modern retailing also served as a place for socializing and not only a place for purchasing goods.
3. Andreassen and Lindestad (1998) claim, that by being exposed to information as well as gaining experience, customers develop a corporate image in their mind. Corporate image plays an important role when being successful in attracting and retaining customers, especially when companies within the same industry are becoming more and more similar.
4. Gehrt and Yan (2004) claim that customer behaviour is affected by situational factors such as Physical, social and temporal influences. The authors also remind us that scarcity has a significant impact on consumer's product and store choice. There are important differences among the formats in terms of availability of product information, ability to compare products, degree of human intelligence, access, speed of delivery, and amount of shopping time required.

DATA ANALYSIS:

IKEA has been present in India for 30 years as part of INGKA group, sourcing many different products for IKEA stores worldwide. Today India source products for approximately euros 315 million every year, with the aim of doubling it in the next years to meet our global and Indian needs. We work with 48 suppliers in India, ending 45,000+ direct co-workers and approximately 400,000 co-workers in our extended chain. Our suppliers are long term partners who share our vision and values. The supplier code of conduct, the IWAY standard, plays an important role in positive developments. It specifies our minimum requirements relating to the environment, social impact and working conditions.

India is culturally diverse country home to over 1.3 billion people. Its dynamic economy is projected to have real annual growth of almost 6%. As per study of 2013 India was expecting to be in “The top 5 economies in the world” but as far we know India has been Ranking at the sixth position. Strong economic development over the past decade has increased living standards and created a vibrant middle class that is hungry for consumer goods. Trends such as increased urbanization and higher disposable incomes and their demand for foreign brands had only made India even more attractive. Not to mention the employment opportunities we gained because of whole IKEA launching in India. So many people have found right jobs and the opportunities had made growth in India’s economy as well.

The reason behind IKEA choosing Hyderabad over any other states in India is a man name, Pradeep Chandra (principal secretary). He had sent a personal mail to Jespar Brodin (CEO of IKEA) when he got to know that IKEA was planning to set up stores in Delhi, Mumbai and Bangalore. Jesper Brodin took a note of it and visited India on a condition that Pradeep Chandra should convince to why IKEA should open their first store in Hyderabad. Later, with a 10-point list Pradeep convinced Jespar that Hyderabad would be an ideal destination to set up its first store. On August 11, 2016 IKEA opens its first store in Hyderabad India.

and have been getting affected amide covid-19 virus. India has been coping it up with all the losses and is still being in the run.



After 12 years of wait and groundwork, the Swedish home furnishing giant IKEA is all set to make an incredible entry in India although it got

approval from the Central government for its Rs 10,500 crores investment plan five years back. IKEA is opening its very first store of India in Hyderabad’s Hitech city to redefine and pace up the expansion of Indian’s organized furniture market.

After understanding the needs and requirements of Indian market, IKEA has planned to enter with a very clear-cut strategy of Affordability & Accessibility. After Hyderabad, IKEA is looking forward to launch stores in Mumbai, Bengaluru, Delhi NCR, Ahmedabad, Surat, Pune, Chennai and Kolkata.

The man who made IKEA choose Hyderabad as their launching pad in India was Pradeep Chandra (Principal Secretary Industries). He personally got in touch with IKEA's CEO Jesper Brodin and convinced him why Hyderabad would be the best pick for IKEA's first store in India. Pradeep Chandra helped IKEA in land allotments and permissions and alongside promised a potential metro station opposite the store.

- Furniture retail is an awfully convoluted market in India. 90% of the furniture marketplace are unorganized and comes under the category of small or medium scale industries. Indian furniture market is very pocket friendly but fragmented. Swedish furniture retailer IKEA, after all the research decided to offer the lowest possible price to Indian customers along with an aesthetic experience.

Suggestions and Findings:

FINIDNGS:

- On August 11, 2016 IKEA opens its first store in Hyderabad India. - Swedish furniture and home furnishings retailer Ikea plans to dominate India's large cities by opening one or two large stores along with four to five small format stores in each of them as it tries to reach more shoppers in highly populated markets, said a top executive at the company.

- By 2025 the retailer plans to have four small stores in Mumbai— this is in addition to its large-format store in Navi Mumbai that opened late last year.

- Today marks a major milestone as we add a new customer meeting point in Mumbai, our first Omni channel market for Ikea in India," said Peter Betzel, CEO and CSO (Chief Sustainability

Officer), Ikea India.

SUGGESTIONS:

- The UI/UX of IKEA's website is quite decent. It also has an enquiry-based chatbot. This can although be improved by making the chatbot objective. It should provide pre-set options to users. It should also be personal, having a touch of human elements like a name or a picture.

- The students also suggest having pop-up ads on the website that generate leads.

- The user interface & user experience of their application is great. But they can definitely improve upon pointers such as:

- The app should send notifications for new offers, discounts, promotions, etc.
- The app should also send notifications for products left in the cart (unpurchased)

- The app should send updates for new workshop events.
- It needs better keyword optimization to increase app installs
- IKEA needs to introduce its in-app augmented reality feature on its Indian application too. This feature allows people to see the furniture they're interested in buying, in their own spaces up to scale. This allows customers to experience and envision the products.

CONCLUSION:

1. IKEA is not new in India. They have been sourcing for years from India for their global stores. As such, they do have some familiarity with the country. For IKEA, because of the country's large population and fragmented furniture market, India has been for decades on the radar as an attractive market. Meanwhile, competition for IKEA in the country has increased as online furniture start-ups such as Pepper fry and Urban Ladder have become popular in large cities. The overall furniture market, though, remains largely dominated by unorganized retail and local vendors. The company has bought land in Hyderabad, Bangalore, Mumbai and Gurugram, and is also looking to expand into Surat, Ahmedabad, Kolkata, Chennai and Pune but the proposition will have to change to some degree. First, IKEA will not be the cheapest in the market as the unorganized sector which avoid overheads and taxes can be relatively cheaper. Second, DIY has to change to "Do it for you". Finally, the bureaucratic and consumer psychology in India needs to be changed so as to allow the adaptation of newer and emerging trends in the market. This may take a few years to get the proposition perfect and break even, but success is assured in the long run.

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A STUDY ON TOYOTA COMPANY'S VALUE CHAIN MODEL

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ABSTRACT:

Over the past 50 years Toyota created and honed a production system that fostered its ascension in the automotive industry. Furthermore, the concepts that fuel Toyota's production system extend beyond its manufacturing walls to the entire supply chain, creating a value chain where every link is profitable with an unwavering focus on teamwork, communication, efficient use of resources, elimination of waste, and continuous improvement. This report is a part of MIT's Supply Chain 2020 (SC2020) research project focusing on Toyota's production system and supply chain. The study begins by examining the automotive industry, evolution of top 5 automotive companies, and Toyota's positioning against its main competitors. Finally, the report explores the main components of Toyota's production system and its supply chain structure. The Toyota production system, closely related to lean manufacturing, has become the paragon for manufacturing across industries. Similarly, Toyota's supply chain structure and relations with suppliers has become a source of competitive advantage.

Keywords: Supply chain management, distribution, integration, production planning, inventory management

INTRODUCTION:

Kiichiro Toyoda was the founder of Toyota Motor Corporation and the automotive-centred Toyota Group. Kiichiro was a keen, skilful inventor and the continuous resolve of invention helped him to create the business base acquired from his father, Sakichi Toyoda. With the incessant drive towards innovation and invention, Kiichiro extended into the automotive business and build the groundwork of Toyota Group that you see today.

In 2008, Toyota's sales surpassed General Motors, making Toyota number one in the world. In 2010, Toyota employed 350,005 people worldwide, and was ranked the third-largest automobile manufacturer in 2011 in terms of production, behind General Motors and Volkswagen Group. Toyota is also ranked as the eleventh-largest company in the world by revenue. In July 2012, the company

reported it had manufactured its 200-millionth vehicle. In order to mandate the achievement of such a high level of production and

demand for vehicles, the company has established different long-term strategies, integrated corporate philosophies that help to set a balance on the demand and quantity of the products. In addition, continuous improvement of communications with its partners to rake in investments and find the competitive advantage that aids Toyota to constantly meet customer expectations. Moreover, these strategies involve the use of enhanced technologies that help to expectations. Moreover, these strategies involve the use of enhanced technologies that help to ensure quality and safety of the products. The mission of Toyota Motors is the provision of the best qualified service and products as well as

cooperation with dealers. "Since its foundation, Toyota has been using its guiding principles to produce reliable vehicles and sustainable development of society by employing innovative and high-quality products and services'.

PRIMARY ACTIVITIES IN INBOUND & OUTBOUND LOGISTICS:

Inbound Activities: -

Toyota has Managed a supply chain. It receives parts from thousands of suppliers located from around the globe. It has handled its inbound logistics efficiently. Its worldwide network of distribution centers and warehouses receives parts from the suppliers.

Outbound Activities: -

Toyota has parts and logistics centers in various nations around the globe. It ships thousands of parts and orders each day from its network of warehouse and distribution centers. Toyota notes on its website. "The Toyota parts centre europe is its central distribution centers, at the core of its parts supply chain. The centre is in Belgium and ships thousands of parts every day to its regional deposits across the entire region".

Primary Activities in Operation of Company: -

The primary activities in Toyota's value chain analysis include inbound logistics, operations, outbound logistics, marketing and sales service.

Inbound logistics:

The main aspect of Toyota Company's value chain analysis is the inbound logistics. Inbound logistics use JIT (Just-in-Time) system of production as it decreases the inventory cost. JIT helps Toyota to optimize their assembling and production process as well as to minimize parts going to waste or

getting unused as inventory. Inbound logistics are the goods that the company receives from its suppliers and store for some period of time until the moment when they will be used in the production process. Toyota company does not have and is not able to create own raw materials that are needed for assembling of cars, thus it has to collaborate with a third party. Toyota orders the raw materials from all over the world and in the interest of maximizing their availability of raw materials; they maintain good relationships with their suppliers. Toyota uses Just-in-Time system to manage the supply of raw materials as well as optimizing the supply and production processes.

Operations:

These activities comprise mainly of the manufacturing and assembling process of the motor vehicles. Other activities in the operations may include motor tuning, configuration of motor parts and final engine tuning. Toyota Motors have established and maintained the image of producing reliable and long-lasting vehicles largely due to their well-designed and moderated operation process. One of the main factors of Toyota's successful sales record is credited to their comprehensive implementation of an exquisitely planned operation system.

Toyota Production System (TPS) is an operation structure followed, which consists of the integration of the lean production concept and Just-In-Time (JIT) management, controls the production process in accordance with the customer requirements. Other operation activities also include the 'Jidoka' system, which stops the production process if any defects or other operational problems occur. Operational constancy is also a part of TPS and consists of 'Heijunka' concept which focuses on the uniform distribution of work at any position of the production process; Work Organization focusing on the accurate distribution of tasks in the correct order and description; and Total Productive Maintenance (TPM) which emphasizes on overall check-up of all equipment and tools used in the production process.

Outbound Logistics:

On completion of the operation process, final products are transferred to the retailers, wholesalers and, ultimately, to the final customers. Toyota controls the whole process of vehicles distribution, from the factory to their branches worldwide, to ensure that the final products are delivered in the right place at the right time. Each Toyota dealer is directly linked and controlled by Toyota, with few or no subsidiaries involved in the distribution process. Outbound logistics of finished vehicles are the responsibility of Toyota Motor Sales. Parts Distribution manages the supply of service parts from the plant to the service centre. It supports service parts production and shipping preparation which includes containerization and overseas shipping. This group is also responsible for quality, technical support and overseas logistics and customs.

Services:

Services are the final aspect of the primary activities that mainly adds value to the products and ensures successful distribution as well as obtaining feedback and response from the customers. This includes all areas of service such as final checking, after-sales service, maintenance, complaints handling, training, repair services and additional customer services. Toyota recognizes that its customers are the “driver” of the company’s success, thus it provides and improve several types of their offered services. As Toyota product’s main factor is reliability, therefore services are delivered by qualified personnel ensuring all services provided are of high quality. The importance of perfection ensures service excellence and more satisfied customers as well as sustaining a greater competitive advantage.

SUPPORT ACTIVITIES IN TECHNOLOGY:**Technology:**

Toyota is a major vehicle brand known worldwide for its exceptional engineering and technology. Apart from great production technology, the brand has increased its investment in technological innovation for growth. It has its own research centers and has entered into partnership with institutes like MIT and Stanford for faster innovation. Every year Toyota invests a large sum in R&D for innovation in AI and Robotics.

Support Activities in HRM and Procurement: -

HRM:

Toyota had 364.5K employees in 2017. The brand believes in a human centric approach to value creation and therefore focuses on the development of its human resources. It follows the philosophy of human centred Monozukuri. In the automotive industry, smart and able human capital can be a major source of competitive advantage.

Procurement:

Toyota procures raw material from thousands of suppliers around the world. In 2009, the brand formulated a specific ‘Toyota way of purchasing’ that lays down the policies and principles that the procurement staff must follow. Through its procurement strategy, Toyota has always worked towards contributing to local economies.

Distribution of vehicles produced overseas

As of December 31,2011, Toyota has built a solid global sales network of 172 overseas distributors.

As the main sales channel for their respective regions, overseas distributors execute sales strategies that are sensitive to the needs of local consumers. They perform a crucial role in keeping all Toyota quickly in tune with market changes and customer needs and in creating new Toyota fans by boldly pioneering potential demand.

The following is a list of overseas distributors that are operating as of December 31, 2011.

Unit: Companies

Total	North America	Latin America	Europe	Africa	Asia	China	Middle East	Oceania
72	3	43	27	49	17	4	14	15

Guam and Micronesia have the same distributor (Atkins Kroll, Inc.), making the number of distributors in the Oceania region 15.

Services Provided by Toyota:

Toyota's Production System (TPS) is based on "lean" principles including a focus on the customer, continual improvement and quality through waste reduction, and tightly integrated upstream and down-stream processes as part of a lean value chain. Most manufacturing companies have adopted some type of "lean initiative," and the lean movement recently has gone beyond the shop floor to white-collar offices and is even spreading to service industries. Unfortunately, most of these efforts represent limited, piecemeal approaches-quick fixes to reduce lead time and costs and to increase quality-that almost never create a true learning culture. We outline and illustrate the management principles of TPS that can be applied beyond manufacturing people, processes, and technology-one that must be adopted as a continual, comprehensive, and coordinated effort for change and learning across the organization.

Support Activities infrastructure:

Toyota has maintained a large infrastructure globally. From its headquarters in Japan to North and South Americas as well as Asia and Europe, Toyota has maintained an extensive presence throughout the globe. Currently led by Akio Toyoda, the brand has an impressive presence in most of the major markets of the world.

Firm Infrastructure:

These activities relate to developing the strategic plans of the organization. MIS (Management Information System) plays a vital role in designing the strategic plan, organizing and controlling the various departments of Toyota such as finance, accounting and corporate strategy. Moreover, Toyota uses robotics system where people act as operators that make the production process fast and efficient.



Toyota's Value Chain Model. Toyota may use value evaluations to accurately identify their under-utilized resources and thereby make better use of these resources. Developing synergies may also aid in a stronger inventory control. Toyota may also enhance designing to further maximize their operations and offshoot process within the value chain processes should re-modelled to support the value chain.

The success of Toyota in Japanese and international markets involves production of motor vehicles with high level of quality and safety, as well as continuous improvement of technologies that are involved in all activities of the company's operations. Toyota Motors has designed different models and concepts that help to increase productivity and are focused on customer needs and preferences as the customer is the pioneer of Toyota's success. Furthermore, Toyota pays great attention to its workforce and motivates its employees with different variety of rewards. This method leads to production improvement and results in customer satisfaction.

PRIMARY ACTIVITIES IN MARKETING AND SALES:

At this stage, Toyota communicates their cars by focus more on local area and specific lifestyle to satisfy the different need in each area by using below the lines marketing. It is because Toyota found out that auto market expanded more than 50% from the previous year and only mass media cannot build up attention of its target. So, Toyota decided to offer more of its events through segmenting lifestyles of its customers such as for people who love racing, Toyota offers the "Toyota One Make Race" which the event is for racing Toyota cars and to show quality of Vios and Yaris, around the country. For sport market, Toyota offer itself to be a sponsor in many sports that popular in Thailand, boxing and football, such as the Toyota Thai boxing marathon Vigo smart and the Toyota premier cup

2010. Toyota also provided 100 cars for the prize of short film competition in the Film Expo Asia 2010. However, Toyota tries to expand its events in every part of Thailand which Toyota will not control all of those events but local dealer to be the one who manage each event. This method can make Toyota get more attention from people in different lifestyle and help to increase the impulse purchasing from customer.

Environmentally friendly is the one that Toyota considers as its first issue for working. Therefore, Toyota pushes many CSR activities for save environment and improve the society such as the White Road Campaign to teach children about traffic regulations and safety through fun and practical lessons. Toyota also communicates and updates its news through electronic media such as its website, www.toyota.co.th. Moreover, direct mail is a tool for people who want to receive news through e-mail from Toyota by register on its website. Brand ambassador also another tools that Toyota use for gain more attention from people by using celebrities who popular in at that time for promote its cars such as it used "Joe-Wan AF" to be brand ambassador for New Toyota Vios in concept of Make it happen. time for promote its cars such as it used "Joe-Wan AF" to be brand ambassador for New Toyota Vios in concept of Make it happen.

Even though Toyota focus more on below the line advertising, but it also communicates its cars through Mass media such as Toyota launch its advertisement of New Toyota Vios, which has Joe-Wan AF to be a presenter, through television, radio, newspapers, magazine, and billboard. As a result, people aware that Toyota has new Vios in the market because mass media can communicate in wide area.

Besides Toyota communicated its cars by advertisement and promotion for its current targeted, it tries to catch new target customer which is a teenager with in-trends lifestyle by building a place for hanging out, learning, and show up their creative of student at the center of teenager Siam Square. This place was called "The Style by Toyota" which has the concept of Edutainment that people can come to this place to have fun with many entertainments and can also learn new technology or news of Toyota in the same time. Moreover, Toyota also launch a new model of its cars, Yaris beâ€¦Groovy, to satisfy its new targeted which are teenager from 18-25 years old with fashionable lifestyle. Toyota change its Yaris to be superior and fashionable with its new technology, such as engine start, from its Vios and Honda Jazz which is a main of its competitor. Therefore, the price of Yaris be Groovy also higher than the main competitor which is Honda Jazz for make customers value its Yaris to be high quality than Honda Jazz.

Summary of Toyota Chain Model: The activities of Value Chain Analysis are linked with each other. One value chain activity is usually affected by the performance of another. Linkages may exist

between primary activities and also between primary and support activities. An example can be the technology development that is included in support activities. Information systems are used in each of primary and support activities. Toyota automated the whole production process with use of robotics system. It shows that technology affects the whole business process of the company. Human Resource Management also affects the operations processes and other activities since employees are involved in the process of productions as well as other departments of the company. Although the operations process is automated with robotics system, this system is controlled by operators i.e. people. At the same time, Human Resource Management cannot work without inbound logistics, raw materials and other goods that play main role in production of products. Japanese technology is more sophisticated than Chinese and therefore would require training and upgrading employees' skills and knowledge as well as introduction of technologies and training on its usage.

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INCOME TAX BENEFITS TO ENTREPRENEURS

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ABSTRACT:

Tax planning involve and carry out different methods to reduce the amount of taxes owed over a given time span. Minimizing a small business's tax liability will free up funds for expenditures, investment, or development. Tax planning may also serve as a source of working capital. There are a few general tax preparation areas that extend to all types of small businesses. The selection of accounting and inventory-valuation approaches, the scheduling of equipment acquisitions, the distribution of business profits among family members, and the selection of tax-favored benefit plans and investments are all examples of these fields.

Entrepreneurs and business owners are liable to pay income tax on the revenues generated by their venture. This can be a considerable sum, and they are always in search of deductions and exemptions to minimize their tax outgo. Income tax is one of the most challenging things to understand.

KEYWORDS: Tax Planning

INTRODUCTION:

If we discuss the definition of tax planning, it is a practice undertaken by a taxpayer in order to reduce his or her tax liability by making the best use of all available exemptions, deductions, and other provisions that are permissible and feasible under the income tax act or taxation law. Essentially, it is the examination of a financial situation from a taxation standpoint.

Tax planning ensures that all aspects of the financial plan work together to achieve optimum tax performance. If we look at our Indian taxation law, we can see that it provides several choices for taxpayers, including a variety of exemptions and deductions that can help you reduce your total tax liability.

The 1 numerous deductions available to taxpayers range from Sections 80C to 80U, and any qualifying taxpayer may take advantage of them.

There are also other provisions of the Income Tax Act of 1961, such as deductions and tax credits, that will help you lower your tax bill.

OBJECTIVES:

- ❖ To reduce tax liability
- ❖ To increase productivity
- ❖ To scale up your business
- ❖ To minimize litigation
- ❖ To increase healthy growth of economy

RESEARCH METHODOLOGY:**Business Utilities:**

Business owners using their vehicles and phones can show such expenses are utility expenses. For instance, expenses on phones, vehicles, parking charges, driver's salary, and so on are claimable if made purely for the business purpose. If you are operating your home, then electricity expenses are also claimable. This will help in reducing the tax burden. The following are some of the business utility expenses that are claimable for deductions

Preliminary expenses:

All expenses made prior to the establishment of the enterprise are eligible for deductions under Section 35D of the Income Tax Act. These are recorded as preliminary expenses and deductible from the taxable income for five years.

Convenience expenses:

If you are extensively using vehicles and phones for the business purpose, then these expenses are deductible as business expenses under the company's book.

Regular expenses:

If you are operating your company from home, then you can deduct electricity expenses under the 'head of the company'. Furthermore, you can also deduct expenses incurred due to the internet connection and rent are also deductible.

Depreciation of all capital expenses is also eligible for tax deductions under the 'income of firm'. You need to make capital expenditures from the company's account and claim

depreciation to reduce your taxability.

Pay down your debt:

Lots of small business owners take on debt to finance their growth. A loan won't be taxed in the same way as business income, but you may be taxed on interest payments. "Depending on the type of loan, as well as the legal structure of your business, you generally are able to deduct your interest payments and lower your tax burden," writes an expert in Forbes. Speak to a CPA or accountant who can tell you whether or not you can make your loan as tax efficient as possible. At the same time, make sure you write off any uncollectible debts you may have accumulated through the year. Uncollectible or bad debts are those which are owed to your business by a customer that you (the business owner) or a creditor has not been able to collect. The IRS permits you to write off bad debts before the year. Run your accounts receivable aging report to see who hasn't paid. If the results show a customer who is no longer active, then you may be able to strike this person's balance from your total sales figure. This reduces your income, lowering your income tax. The caveat here is that unfortunately if you do write off a bad debt and the person pays you later, you must reverse the write-off.

Digital Transactions:

In this era of dealing with things digitally, it would not be wise to pay your workers in cash. Furthermore, you will be on the red list of the income tax department. If you are making payment of more than Rs 20,000 in a single to an individual in cash, then it is disallowed in your account books. Therefore, your taxability increases. Hence, it is always advisable to pay your workers through bank transfer. A rupee saved is a rupee earned. When there are several tax saving provisions, it is only wise to make use of them. Implementing tax-saving practices will prove beneficial in the long run.

Invest More in Marketing:

If you are still using the old ways of marketing, then its high time that you implement digital marketing as it helps you reach out to more potential customers and thereby increasing the probability of finding new customers. This will also benefit you from the tax point of view as marketing expenses are eligible for tax deductions. Therefore, it is not a bad idea to increase the budget for marketing.

TYPES OF TAX PLANNING:

Short-range and long-range Tax Planning: The tax planning which is made every year to arrive at specific or limited objectives, is called short-range tax planning. Conversely, long-range tax planning alludes to such practices undertaken by the assesses which are not paid off immediately.

Permissive Tax Planning: Tax planning, wherein the planning is made as per expressed provision of the taxation laws is termed as permissive tax planning.

Purposive Tax Planning: Purposive tax planning refers to the tax planning method which misleads the law. Under this type, there is no expressed provision of the statute.

TAX SAVING TIPS FOR ENTREPRENEURS:

Entrepreneurs and business owners are accountable to pay income tax on the revenues generated. It is a hard reality that every entrepreneur or business owner must accept the part of the revenue is paid to the government as tax.

However, we must contribute towards paying income tax, and we can't escape from this duty because it is ultimately a source of revenue for the government.

Here are few tips that entrepreneurs can follow:

- ❖ Hire your own family members
- ❖ Travelling and Accommodation
- ❖ Invest more in marketing
- ❖ Business Utilities
- ❖ Medical Insurance
- ❖ Home Loan
- ❖ Donations
- ❖ Spending on yourself and much more

EXPECTED OUTCOME:

The primary benefit of tax saving is that incorporating tax saving investments into your portfolio early on gives you a head-start for the future. Moreover, it gives a longer duration for your investments to start yielding returns for a period when you might need them most. This is particularly useful for market-linked tax saving investments such as Equity Linked Savings

Schemes (ELSS), specific tax

saving mutual funds, and Tax-Saving Fixed Deposits. Also, the money saved by every taxpayer can use it in his or her business to scale up and get maximum returns on it.

BENEFITS TO THE SOCIETY:

- ❖ Increase in cash flow for business owners, salaried individuals, professionals, self-employed.
- ❖ Tax saving helps people to pump up more money in market, so we have more investment in different sectors.
- ❖ Strengthen the financial condition of every individual which gives betterment to society.

FUTURE SCOPE:

Tax Planning is an activity conducted by the taxpayer to reduce the tax liable upon him/her by making maximum use of all available deductions, allowances, exclusions, etc. feasible under law. The objective behind tax planning is insurance of tax efficiency. Tax planning allows all elements of the financial plan to function in sync to deliver maximum tax efficiency.

CONCLUSION:

There is a clear need for excellent corporate tax planning that will help to ensure a smooth flow. One of the most important aspects of corporate tax planning is deciding which nations, states, and cities have the authority to tax business activities. Essentially, corporate tax planning refers to techniques for lowering taxes.

Identifying the best period to recognize an item of income or cost is a common source of corporate tax planning opportunities. Due to the time value of money, deferring income recognition to a future period or accelerating cost deductions to the current period results in positive cash flows and savings. Exploiting the gaps in rules for book accounting and tax accounting in a strategic way may help establish timing differences that result in tax benefits.

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CANCER PREDICTION USING MACHINE LEARNING

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ABSTRACT:

In the medical field, machine learning (ML) techniques play an important role and a growing role because of their superior capacity in assisting health professionals make decisions and diagnoses. This project aims to predict brain tumors using MRI scans. The main purpose of this work was to create an automated system for multiple detection and classification of brain tumours based on Image Processing, Machine learning and deep learning to build a robust tumors detection system.

Keywords: Machine Learning, Deep Learning, Brain Tumors, MRI Scans.

INTRODUCTION:

Doctors can easily detect low grade tumors easily but identifying third-grade and IV tumors requires appropriate, time-consuming treatment. In this work, we develop a website that can detect all the major types of brain tumors. This program will be able to help doctors diagnose the tumor early and will reduce the number of brain tumor deaths. The system takes an MRI image of the brain as an input device using the Watershed algorithm. This algorithm is used to distinguish between objects and an image. Here, we use this algorithm to separate the tumor from the brain image, which also helps the model to provide more accurate results. Early detection of cancer provides an excellent opportunity for treatment.

In a few cancers, research shows that screening tests can save lives by diagnosing cancer early. In some cancers, screening tests are only recommended for people at increased risk.

Critical characteristics of Machine Learning:

- Ability to perform automated data visualization
- Accurate analysis of data.
- Automation of processes.

PROBLEM DEFINITION:

Brain tumor has been a major cause of death in children and adults under 40 years of age. More than 12,000 people are diagnosed each year with a major brain tumor, including 500 children and young people - 33 people daily. Accurate results can be obtained only through computer-aided automated systems. With the help of machine learning, we can help accurately predict cancer that will help in early detection and provide the right treatment needed for the patient, before a situation where the patient's life is in danger can arise. With the help of machine learning, we can help accurately predict cancer that will help in early detection and provide the right treatment needed for the patient.

SURVEY OF TECHNOLOGIES:

Deep learning is also a leading force in Medical Research, with the help of image recognition it can be very helpful to diagnose illnesses before there is a threat to the patient's life.

Some Examples of Deep Learning applications include:

- Virtual assistants
- Translation services
- Image colorization
- Facial recognition
- Image recognition
- Autonomous vehicles

SOFTWARE REQUIREMENTS:

Django - It is a Python-based free and open-source web framework that follows the model-template-views architectural pattern.

Google Colab - It allows anyone to write and execute python code through the browser, and it is very suitable for machine learning, data analytics and education.

Why should we use the Google Colab?

To run advanced machine learning programs, a lot of GPU power is required, Google Colab can help with that since its servers offer high performance TPU and GPU computing, which is

suitable for the project which uses a lot of image processing algorithms and also deep learning, machine learning algorithms, which process a lot of data while training. It is a web hosted Jupyter notebook service and provides free access to computing resources which include GPUs and TPUs. It is cost effective as money can be saved by using the free servers that colab provides instead of buying hardware.

Colab notebooks highly support documentation, which makes it easy to have a clear understanding of the code in every section. It also supports graphs which can be used to display the training and testing accuracy data. .2 OVERVIEW OF TECHNOLOGIES

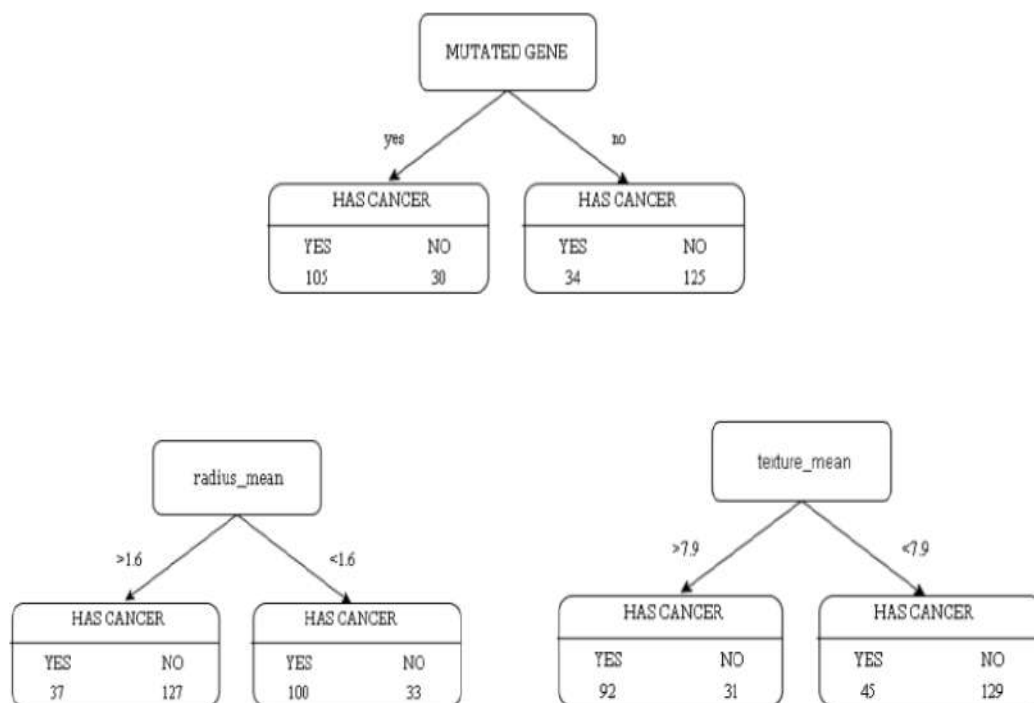


Figure 1: Decision Tree

Logistic Regression, Decision Trees, Random Forest, K nearest Neighbour Classifier can be used to determine whether a tumor is malignant or benign.

To predict whether a tumor is malignant (1) or not (0), we can use the sigmoid function to calculate the probability by the use of logistic regression. Decision Tree algorithm is a classification algorithm used for classifying the results that need to be computed after taking all the decisions, if the tumor is malignant or benign.

After calculating all the Gini impurity for all columns, the impurity for radius mean is the lowest which is 0.360. We compared all the features with radius mean and the feature with the lowest Gini impurity will be the child node of radius mean as long as it has smaller Gini impurity compared to the radius mean feature. The process is stopped when Gini impurity is not smaller than the parent node.

The application can help in different sectors are as follows: -

Improved Accuracy: we can help accurately predict cancer that will help in early detection and provide the right treatment needed for the patient, before a situation where the patient's life is in danger can arise.

Improved Speed: The detection process will become faster than methods used today.

Automation: The process of detection can be automated through machine learning.

FIGURES AND TABLES:

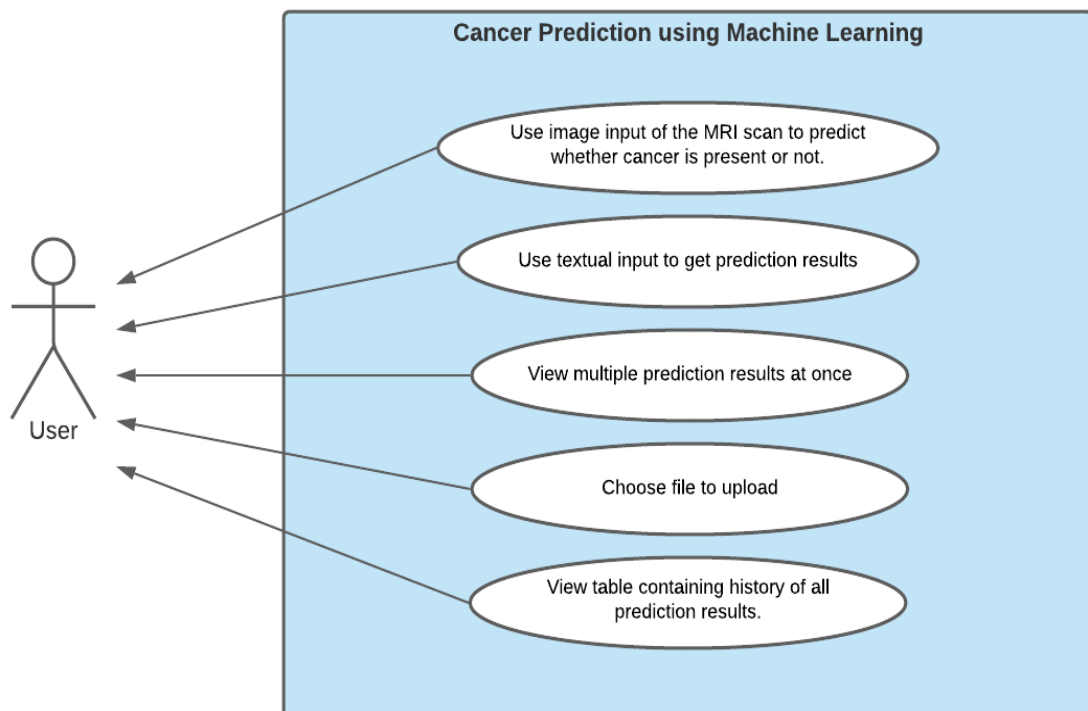


Figure 2: Use Case Diagram

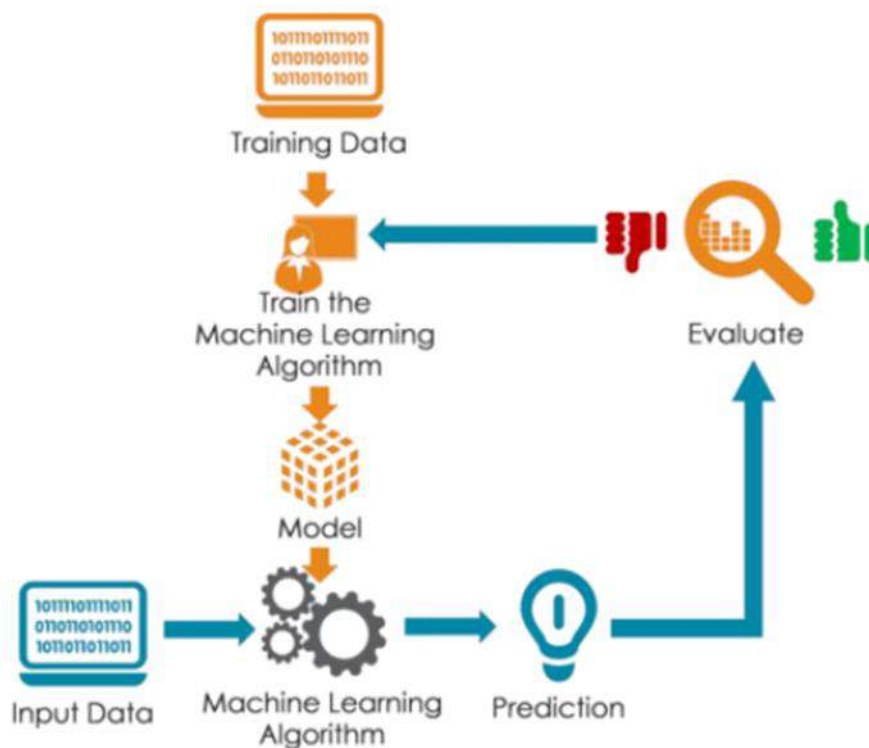


Figure 3: Methodology

CONCLUSION:

The application is a cross-platform website capable of detecting all major types of brain tumors. This system will be able to help the doctors in diagnosing the tumor at an early stage which will consecutively decrease the number of brain tumor deaths.

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Gas Leakage Detection with GPS navigation

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ABSTRACT

In this paper a Gas leak detection security system has been implemented for identifying gas leakage in closed environment. The leakage can be identified by using various sensors. However, many such cases can lead to a loss of properties and harm human life. The implementation of this approach is useful for many companies, house owners and car owners which can save lives. This can be also used as an application in chemical and hazardous industries where there is a continuous need of monitoring gas leaks. We can find the different types of gas leak with the help of different types of sensors. This system will be super-efficient for car or the persons who drives. Many times, such situation has occurred where people carelessly leave their children or pets locked inside their car which can result into death by suffocation due to harmful gas. This system will be useful here as it will detect such leaks and send an alert to three different personals which also includes fire department. Such leaks can cause a huge blast. This system will counter such incidents by sending the exact coordinates of the location to the emergency department and the owner of the vehicle.

Keywords: *Gas leak, Leak detection*

1. INTRODUCTION

LPG gas is a mostly used gas in the resident and urban sector as it is not costly and easily available. LPG gas can be used in the vehicles like car, rickshaw and at different service station. The gas is heavier than normal air and stay at the low-level and spread fastly in case leakage occurs. A continuous monitoring is required for the safety measures at industrial and residential areas. Sometimes, A gas leakage from cylinder may cause damage to the human life. LPG gas Sensors are used to overcome such problem in day-to-day life.

LITERATURE SURVEY

A monitoring system for gas leakage is important for the security of human being. Nowadays, wireless sensors network and integrated system have been widely used for detecting gas-leakage in present environment [1].

Somov A, Baranov A, Spirjakin D, et, al. used Wireless Sensor Networks (WSNs) along with catalytic gas sensors and ZigBee module implemented and used in many factories. Response under various scenarios are collected from catalytic gas sensors, and calculated result based on the Received Signal Strength Indicator and Link Quality Indicator metrics [2].

Jain P C, Kushwaha R identified various WSNs with semiconductor sensors and ZigBee module for residential areas like residents and industrial pipelines of oil and gas. Investigations are conducted to study the interaction between sensors and coordinator [3].

Frish M B, Wainner R T, Green B D, et al implemented a gas leakage detection system based on Tunable Diode Laser Absorption Spectroscopy (TDLAS) and calculated its usefulness in real time environment [5].

Xu B, Yu D, Wu J, et al have suggested a airborne infrared laser leak detection technology, and illustrated the airborne infrared laser leak detector can identify the leakage when the helicopter flies with the rate of 30-50m/s and the flight height less than 80m. [6].

PROBLEM STATEMENT

To avoid explosion due to gas leakage or death by suffocation from gas leakage. Improvised version of gas leak detector.

- Less effective and time consuming
- Cost is very high
- SMS alert can be ignored which can result into explosions

2. OBJECTIVE

The different gas sensors will be used for the detection of a dangerous gas leakage in various gas station, cars, storage tanks and homes. The circuit are built with sensor attached with alarm to give an alert to the operators through a buzzer sound in the region where the gas leak is occurring. This system also helps us to detect the different types of gases like cigarette smoke, toxic gases, combustible, LPG etc.

The main objectives of our proposed system are as follows:

1. Monitoring Gas leakage
2. Providing a sensor to detect various types of gas.
3. To detect harmful gas leaks and send an alert to respective personals which includes fire department
4. To raise knowledge about gas leakage and their consequences so that people can be careful in the future.

PROPOSED METHOD

The objective of the proposed system is to implement a smart automatic gas leakage detection system. It is specifically used for homes, offices, industries etc. The alert system will be installed at each floor of the buildings and used to identify the gas leakage also sensors are used for detecting leakage. The main idea is to design a low-cost system that will be easily manufactured and portable yet systematic gas leakage detection system that make sure security for households, offices and industries.

If the gas level crosses the threshold level, then user will receive the SMS through GSM. The system turns on the buzzer to notify the person nearby to the system and also at the same time Relay is turned on. As Arduino is having an inbuilt Analog to Digital converter system that is why need not to connect any external devices.

This system is benefits in cases when there are senior citizens, small children in house. Due to carelessness, there might be gas leakage which can lead to measure accidents. The system can avoid such incidents by sending an alert SMS to the house owner or by turning Buzzer at the same time

At the same time the user receives the coordinates of the location through sms alert so that it will be easy to track down the user if he is driving or at steady state.

This system will help user who accidentally leaves their children and pets locked inside their car.

The fire department or the emergency service provider will also receive this alert with GPS coordinates so that it will be easy to track down the spot.

If implemented correctly this system will extremely useful for companies, households or user who drives etc.

The systems consist of following components like:

1. **Arduino Nano**
2. **Micro Controller**
3. **Gas Sensor**
4. **Weight Sensor Display**
5. **GSM modem**

RESULTS and DISCUSSION

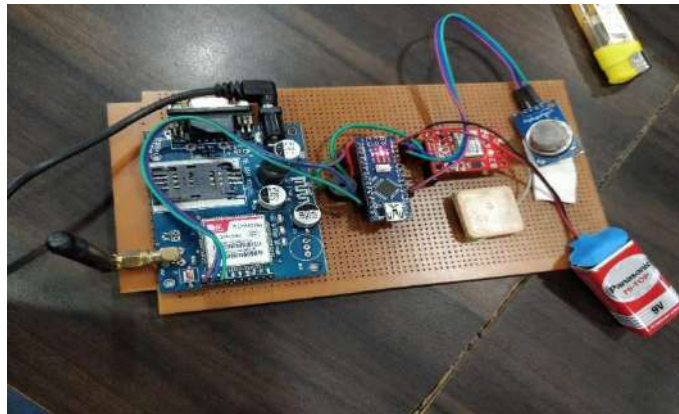


Figure 1: Arduino Nano

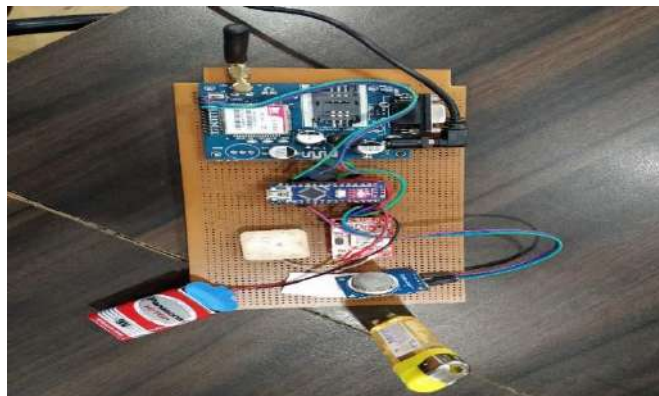
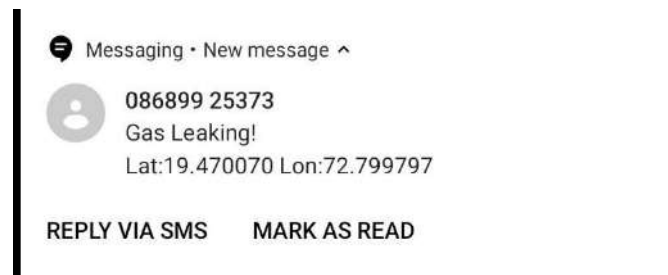


Figure 2: Circuit Diagram



With the help of this message user can be alerted about the gas leak and user can take necessary precautions to avoid it. With the help of GPS coordinates it will be easier to track down the location of the spot where gas leak occurred.

3. CONCLUSION & FUTURE WORK

Gas leakage leads to severe accidents which results in human loss and it occurs mainly due to bad maintenance of equipment's and less awareness of the people. The system plays an important role to prevent accidents and to save human lives. The system is simple and reliable.

Advantages of this system:

- If there is any gas leakage it will be detected automatically and will avoid accidents
- People and companies will be aware about the gas leakage advantages and disadvantages.
- Real time notification of gas leakage and location through SMS.
- Security system will boost up and people be aware about the consequences.

The current system can be further enhanced by making the use of Bluetooth instead of GSM which can be used to send the alert messages to user. Robot can also be used for detecting multiple gas concentrations. Along with this temperature sensor can be used for identifying high pressure gas in cylinder pipe and if temperature is reached at high level, it will generate an alert message to inform peoples.

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A REVIEW ON NFT MARKET AND ITS APPLICATIONS IN INDUSTRY

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ABSTRACT:

Non-fungible Token (NFT) is a form of digital ownership of a digital item or any digital art. The NFT transactions are done on a blockchain. Thus, the whole blockchain concept is majorly used in transacting NFT. As per the analysis, NFTs have derived more attention since the end of 2021. Many cryptocurrency investors have evolved into this business. We have examined how NFTs (Non-Fungible Tokens) have evolved since that time and the working of block chain technology behind it. We have also discussed the major marketplaces for NFT and how we can purchase and sell them in today's market.

Keywords: NFT, Non-fungible token, cryptocurrency, blockchain.

INTRODUCTION:

NFTs are digital assets that represent real-world objects like art, music, in-game items, and videos. They are bought and sold online, frequently along with cryptocurrency, and they are usually encoded with the same underlying software used by cryptos. NFTs have been around since 2014, but they are gaining notoriety now because they are becoming an increasingly fashionable way to buy and sell digital artwork and more online. Unique identifying tokens are assigned to NFTs that make it one of a kind and different from each other, and identical copies of itself. Most digital creations are always infinite in supply and very easily replicable unlike NFTs which is why they are in high demand. But many NFTs, in their premature and developing phase, have been digital creations that already exist in some

form elsewhere, like iconic video clips from different online resources, games or multiple versions of digital art that is already floating around on social media. An NFT allows the buyer to own the original item actually and legally. Not only that, but it also contains various authentication processes, which serve as proof of ownership of the respective NFT. The feeling of “ownership” of the NFT is what users greatly value. It is built using the same type of programming as most cryptocurrency, for example Bitcoin or Ethereum. Assets which can be traded or exchanged for each other, without affecting their value are known as “fungible” assets. Physical money and cryptocurrencies are examples of such assets. NFTs are all different and unique. Each has a unique digital signature that makes it impossible for an NFT to be exchanged. It is non-fungible which is part of its charm.

UNDERLYING TECHNOLOGY:

NFTs exist on blockchains, which are distributed public ledgers that record various transactions. Blockchains are the underlying processes that make cryptocurrencies possible.^[2] The Ethereum network is most popularly used for NFTs. However, blockchains such as Flow, Tezos etc. support NTFs too. Pseudo anonymity of the owner of an NFT can be maintained, because NFTs are irrefutably the property of the person who holds the wallet address, and if the person or company who holds the token is not known, they can trade the NFTs anonymously.

Examples of digital products that can be made into NFTs include art, items in-game, photos, or videos from live broadcasts of various events etc. The file size of the digital object does not matter when the NFT that confers ownership is added to the blockchain because it remains distinct from the network. As the underlying technology and concept develops, NFTs will have many applications that are not just limited to the art world.

LITURATURE REVIEW:

^[11] According to a research paper (“VIRTUAL ART AND NON-FUNGIBLE TOKENS”) by Lawrence J. Trautman. It states that, as we are observing many digital changes in our community. In future virtual properties would trend if we considered today’s scenario. The research paper also describes some laws which would be useful for the whole transactions. It also describes as many people as possible now-a-days like to invest in properties, it requires passive outflow of money. But in the digital case, no maintenance would be required until and unless

the commission for the broker. Thus, it is predicted that such technology would trend in the future. According to a research paper (“Non-Fungible Token (NFT): Overview, Evaluation, Opportunities and Challenges”) by Tech ReportV2. NFT are boosting the gaming industry. This whole concept is used to for rewarding the winners in the games. Also, the games are based on making ‘breeding mechanism’. Thus, many people earn through making a strong portfolio and then selling it at higher cost. And also, these kinds of games have an option to sell the accessories.

NFT MARKETPLACES:

NFT marketplaces are places (online) where NFTs are bought and sold. They are responsible for aiding the transactions between the buyer and seller, also selecting, and verifying the authenticity of the NFTs highlighted on their platforms. Some popular NFT marketplaces are listed below:

Foundation	https://foundation.app/
Nifty Gateway	https://niftygateway.com/
OpenSea	https://opensea.io/
Rarible	https://rarible.com/
SuperRare	https://superrare.com/

RESULT:

Advantages:

1. At any given moment of time, an NFT can only have one unique owner. An NFT can imprint a blockchain with a unique signature for digital asset ownership. This irrefutably proves ownership of the NFT.
2. Digital artists can earn a living through NFTs. One can support their favourite content creators not just by donating, but instead also getting something rare in return.
3. Once the transactions are recognized as verified, the NFT metadata and trade records are persistently preserved and cannot be changed. This makes NFTs tamper resistant.
4. When some NFTs are sold or resold, royalties are automatically sent to the creators. This is a new, yet powerful

notion. Because this is automated, creators can perpetually collect royalties as their work is passed from one person to the next.

5. Because it is based on a decentralized network i.e., no central authority controls the data, there is no censorship.

Disadvantages:

1. Could be used for money laundering, due to the arbitrary nature of valuation, and anonymity granted by crypto.

2. It is extremely hard to accurately judge the value of an NFT, and thus price manipulation is rampant.

3. The basic motivation for NFTs is to create artificial scarcity to assign value to code built digital objects.

4. For reliable and transparent management, NFT-related procedures are typically carried out by transmitting transactions via the smart contract (such as mint, sell, exchange). Current NFT systems, on the other hand, are tightly connected with their underlying blockchain platforms, resulting in low performance (Bitcoin reaches only 7 TPS, whereas Ethereum only 30 TPS). As a result, NFT confirmation is incredibly slow. To solve this problem, blockchain systems must be redesigned, their structure optimized, and consensus mechanisms improved. Existing blockchain solutions are unable to meet these needs.

5. High gas prices have become a genuine issue for NFT exchanges, particularly when minting NFTs on a large scale, which necessitates uploading metadata to the blockchain network. Because smart contracts require computational resources and storage to be processed, every NFT-related transaction is more expensive than a basic transfer transaction. At the time of writing, mining an NFT token costs more than USD 60. A simple NFT deal can cost anywhere between USD 60 and USD 100 to complete. Its widespread adoption is hampered by costly fees resulting from complex processes and excessive congestion.

Environmental Impact:

NFT data is stored on the blockchain. Thus, to ensure the data integrity miners check this data regularly. This process makes the blockchain technology highly decentralized and secure. But the continues data check cost computational power. As the data is huge in size, the data checks consume substantial amounts of energy. The regular inspection is at the cost of harming the environment.

The Carbon Footprint of NFT:

A carbon footprint is the sum of all the carbon emissions released throughout a product's manufacturing and use. It is difficult to calculate the carbon footprint for NFT's, but we can consider NFT minting on the Ethereum blockchain.

The minting process of NFT on Ethereum blockchain:

1. The token must be verified as a commodity on the blockchain.
2. The account balance of the owner must reflect the purchase.
3. The transaction must be included in the block of the blockchain.
4. All miners must be intimidated about the transaction, via proof of work mechanism.

According to the analysis, for one such Ethereum transaction almost 33.4kg of CO₂ is exposed to the environment, which is equivalent to 74,000 Visa transactions. Whereas an average transaction of NFT's has a carbon footprint of 48kg CO₂.

Process	Energy Consumed	Carbon Emission
Mining	142KWh	83kg Carbon
Bidding	41KWh	24kg Carbon
Cancelling	12KWh	7kg Carbon
Sales	86KWh	51kg Carbon
Ownership Transfer	52KWh	30kg Carbon

Figure 1: Energy consumption of various steps involved in NFT

Environmental impact of SuperRare

SuperRare is a marketplace where most of the NFT transactions take place. According to a report from SuperRare, amongst 633 total artists 67% of the NFT artist have a carbon footprint greater than 1 ton. 18% have the carbon footprint of larger than 10 tons. Average consumption of energy on SuperRare artist is 10MWh and their carbon footprint is almost greater than 5 tons. Thus, NFT's affect the environment on a large scale.

CONCLUSION:

NFTs make markets much more efficient. They streamline processes, eliminate intermediaries, enhance supply chains, and bolster security. Concerns have been expressed about the impact

of NFTs on the environment, but NFT mining will be far more economical, and environmentally friendly once mining becomes more efficient with newer technology. As of now about 39% of bitcoin mining can be traced to renewable sources ^[10]. In the future, the concept and technology that NFTs are based on will have huge applications in various fields.

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APPLICATION OF BIG DATA ANALYSIS ON MICRO AND SMALL-SCALE ENTERPRISES: A COMPREHENSIVE SURVEY

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ABSTRACT:

Data is the new oil. Data literacy is something that needs to be taught right from a micro-business owner to an entrepreneur in the 21st century. For this, big data and data analysis play a very crucial part. Big Data will not just help a business owner make better business decisions; it can help them predict the future too. In this paper, I focus on how micro-businessmen to small scale businessmen can leverage that data to increase /her revenue. Later I discuss the problems they face daily in their business, Moreover, I also talk about how hopefully in the short run data can be analysed in a clean, precise and leverage able way.

Keywords: Data literacy, Analysis, Cloud Storage, Micro-Businesses, Big data, Graphical Visualization.

INTRODUCTION:

BACKGROUND- Today, we are having a huge data explosion across the world. Big data is not just for only big businesses with bigger budgets. Today, micro-businesses like general stores, pharmacies, hair salons, etc. too can reap the benefits of the massive amounts of online and offline information to make wise, data-driven decisions to grow their businesses. This paper is written with the intention so that from the local farmer to the vegetable and fruits seller to the daily medical stores we go to, everyone can harness the power of data and use them to make data-driven decisions and increase their revenue.

This research will mainly focus on the problems these businesses face and the reliable, cost-efficient solution to the same.

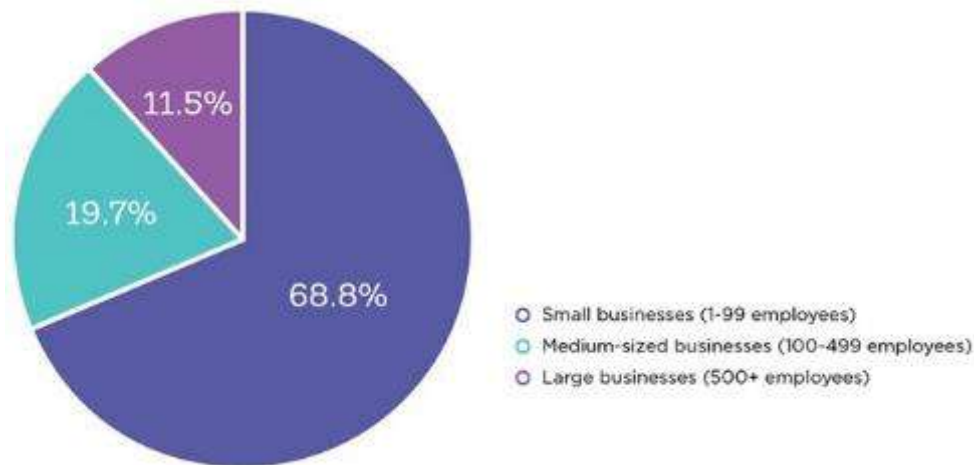


Fig.1 Micro and Small Scale Businesses Compared to Other Businesses ^[1]

IMPORTANCE OF MICRO AND SMALL SCALE BUSINESSES IN ASIA:

Enterprises with investments up to INR 10 million (\$132,521), are micro-units. Enterprises with investment up to INR 100 million (\$1.3 million), are small units. Micro and Small Scale businesses are the backbone of the economies of Asia, 98% of all enterprises and 66% of the national labour force on average during 2007–2012. Suggesting their contribution to the region's economies can be expanded further with the right use of data. ^[3] Whereas they only contribute about 29% of Indian GDP.

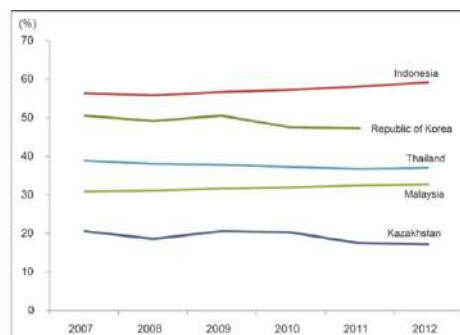


Fig 2. Micro and Small-sized Enterprises Contribution to Gross Domestic Product

PROBLEMS:

Micro and Small-Scale Businesses face challenges from other bigger competition, the ability to being able to adapt to rapidly changing market demand, technology-related change and capacity constraints relating to knowledge and creativity. However, their potential is often not

fully realized due to factors related to their small scale: lack of resources (finance, technology, skilled labour, market access, and market information); lack of economies of scale and scope; higher transaction costs relative to large enterprises that can contribute to a lack of information, know-how, and experience of domestic and international markets and increased market competition, this paper provided solutions for mitigating four major challenges faced by businesses are:

PROBLEMS FACED BY SMALL AND MICRO-SCALE INDUSTRIES -

1. The lack of databases is a challenge for them. The financial statements are thus tough to access.
2. The challenge for businesses small or micro is to sort through the sea of data that is flowing into their organizations (for which hiring an expert can be necessary but very expensive) to identify the quality and timely information they need to support their operations and decision-making. The data includes entries, weblogs, email and text files, as well as input from sensors and other data collection devices that make up the “Internet of Things.” Like Fitbits, temperature detecting sensors etc.
3. The third major challenge is the fact that most business owners have education only till 12th grade (51.90%) and are in the age bracket of 25 to 45-year-olds (71.85%) which in the real world doesn’t make much of a difference while making a business, but their prejudices can be a problem in adapting to their daily business routines into a data-driven business.
4. The last major challenge for small scale development is the insufficient information technology for sales.

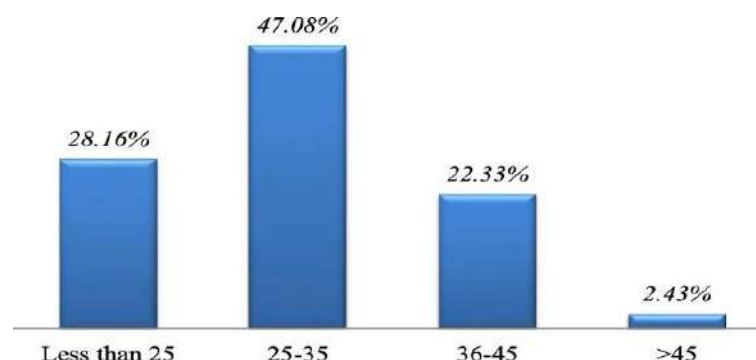


Fig 3. Age distribution of entrepreneurs ^[6]

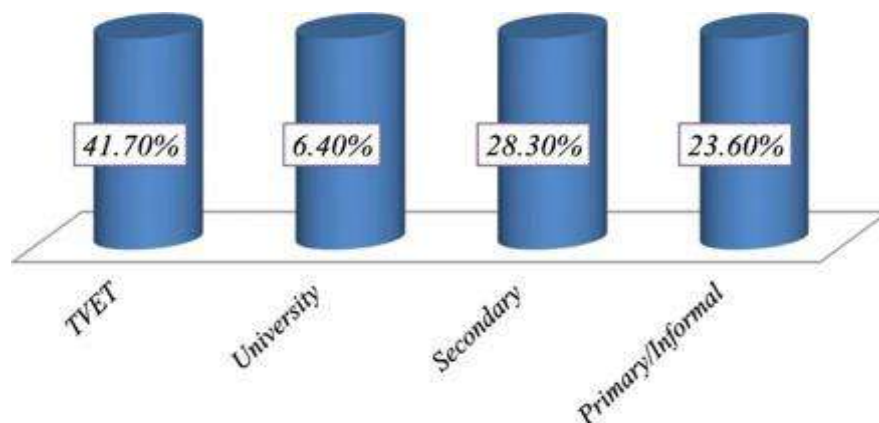


Fig 4. Highest education of Entrepreneurs ^[6]

HOW TO IMPLEMENT IT?

THE IDEAL SITUATION-

With many alternatives not yet available in the market which can be harnessed by the most economically backward businesses, an alternative that can be understood by a layman like the vegetable vendors and general stores in our area is necessary. The ideal solution of something like this can be an app that has a user interface somewhat like WhatsApp with a cloud storage facility for the user. For smooth day to day work, the app should have all the facilities right which includes data collecting, storing, analysis, visualization be run on the subscription-based model in which let's say the user wants to try it out for a year, so he/she can just explore all the features in that period and which can also be understood by even an eight-year-old today.

To put that in perspective let's see how it would work in the real world. First, a customer comes with the product, he is identified by simply putting his mobile number in the app (another way of doing this would be by face recognition but I do not want to get ahead of myself so we'll pick the simpler route). After getting registered the phone itself scans the QR on the product or the owner can manually add the product too. Lastly, the customer pays and that receipt is received by him on his mobile phone via SMS. The cycle keeps going for a few weeks and at the end of the month or after some time the owner gets to see graphs, in other words, gets to visualize the data according to his preferences. Doing this simple process could help the businessman in ways to help his revenue go multiples.

Then this begs the question, why am I writing research on this subject instead of making the app. Let me elaborately explain this. As it is said to build a successful business mostly the

infrastructure has already been laid out by someone else, all you have to do is harness the power of the infrastructure advantageously, to put that in perspective, the dot-com boom happened in the early 2000s in India since then we have had access to the internet and the websites have existed but did you see yourself buying something from the internet back then or even using internet 6-8 hours a day as we do today. The answer to that is no because the internet was very expensive for the common man back then (on an average 1GB of data was 300 rupees) so mainly it was used for emailing and video calling. Now, around 2016 came Jio which gave free internet for almost 2 years which consequently decreased prices in a way that everyone can use it and even make it their source of livelihood. Today, there are more than 500 million daily active users in India itself, which is how most of these websites are doing so well.

Now, coming back to point resources tell us that the world's 90% data was created in the last 2 years itself. ^[2] Other than this after speaking to a few local general stores in the area, a few vendors, and a few pharmacies most of their approach to data was that firstly they didn't understand it at all and the ones which did understand found it to be an added inconvenience to their business. So, today India is neither aware nor is it ready for the data explosion at least a small scale level, but hopefully one day we will reach that stage. My sole point in writing this research is to create awareness right from the smallest of businesses to these multi-franchised businesses that today, data is worth way more than what it is perceived to be.

AVAILABLE ALTERNATIVE (GOOGLE ANALYTICS) -

Google's Web-traffic monitoring tools, provide all types of data about the kind of people that visit your website, using a multitude of metrics and traffic sources. With Google Analytics, you can try to extract long-term data to reveal trends and get other information, so you can make wise, data-driven decisions. For instance, by tracking and analyzing visitor behavior such as where traffic is coming from, how audiences engage and how long visitors stay on a website. Another example is looking at social media traffic, which will allow you to make changes to your social media marketing campaigns based on what is working and what is not.

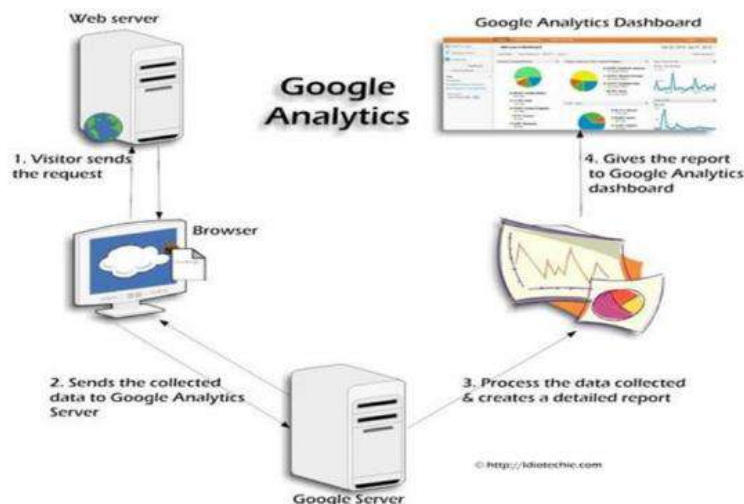


Fig 6. Google analytics block diagram. ^[5]

REAL-WORLD USE -

Helps to Provide Real-Time Analytics-

Companies like HSBC use real-time data to keep our finances secure. They analyze our transactions in real-time and use pattern matching to see if a purchase might be a fraud. If a customer spends an unusually large amount or makes a purchase from a strange location, it can be a cause to investigate. Similarly, our micro-business owners can also leverage the data in a way that proves to be effective to them.

Helps Influence The 3 Major Aspects of Consumer Behavior-

Personal- It involves the interest, opinions and basis of the customers.

Psychological- It involves common perceptions and thoughts of customers.

Social- It involves groups and social media activities

The statistics gathered through thorough analysis will help you find out what things your consumer likes, about their online activities and the right time to approach them.

Analysis Helps in Predicting Behavioral Patterns-

A Business owner may stay completely oblivious as to what is going on in the market if they do not use advanced practices to extract data about their total addressable market. With the help of analysis and the visualization of data, we get to view the market from many different perspectives. We understand the needs and necessities of our audience. You get to know how your consumers responded during the crises and what things matter most to them.

CONCLUSION:

So, simply put data analysis has been a necessity in this growing age of technology. The very thing that businesses would run upon since thousands of years are just coming to us now in different formats and ways. What I mean to say is data is essentially just numbers put in a tabulated and visual format, the very funny part is how it can be used in various ways today that it has become way more than just numbers, one might even say that without at least some form of data there is no business and hence there is no economy. Lastly, I would love to see a world where even when you go down to buy one orange, you get the orange, and the vendor gets the data and when many such people buy various things the vendor can make a story out of the data and keep improvising in his/her business.

Artificial Intelligence, Machine Learning most of which will be the future of India is primarily made up of data, So why can't it be used by everyone to increase their livelihood and spend a better life with their loved ones.

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Non-invasive Glucometers-Painless way for regular tracking of blood glucose

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ABSTRACT

In today's stressful life in which maintaining a healthy lifestyle is a big challenge as well as necessity, a disease like Diabetes has become one of the health concerns around the globe. Keeping the healthy blood glucose levels is beneficial for the prevention of diabetes. This requires regular monitoring of blood glucose. The conventional method used for glucose monitoring is painful as it involves finger pricking and testing the collected blood samples. This may also cause infection if the needle used for pricking is not sterilized or if it is used one. These factors may cause fear in the patients and hence resulting into reluctance in monitoring the blood glucose. This paper deals with the various technologies used for non-invasive monitoring of the blood glucose

Keywords: Non-invasive, spectroscopy, iontophoresis, diabetes, metabolic

1. INTRODUCTION

1.1 BACKGROUND-

As per the International Diabetes Federation, there are 463 million adults worldwide with diabetes. The total number of people with diabetes is predicted to rise by approximately 50% in next 20 years. As per the survey carried out by World Health Organization, diabetes is one of the leading causes of death across the world.

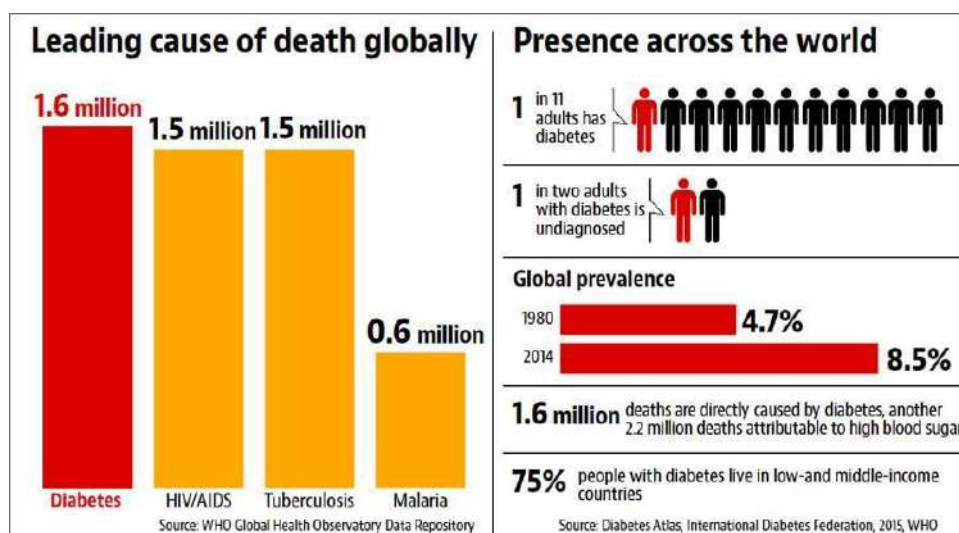


Fig.1 Diabetes Survey

There are certain consequences of diabetes such as over the time diabetes can cause heart conditions. It can also cause damage of blood vessels, vision, kidneys, and nervous system.

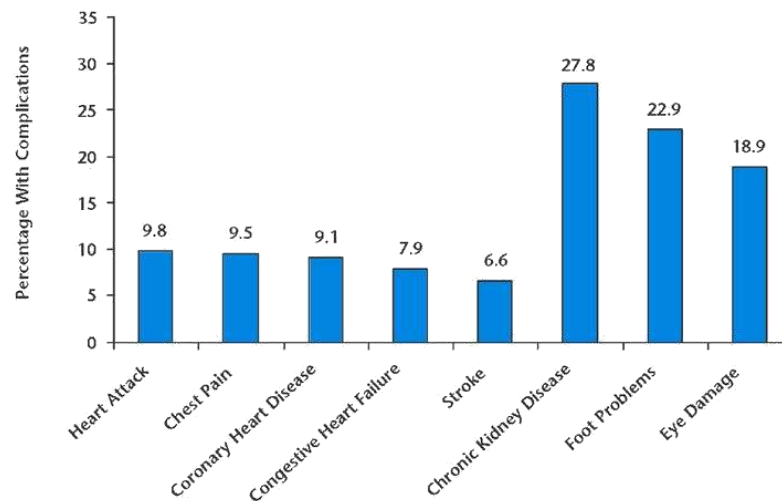


Fig.2 Diabetes Related Complications

To prevent these complications in future, diabetes patients need to monitor their blood sugar level regularly. This regular monitoring can help patients and their doctors to decide the dose of medicines, diet, exercise routine, etc., which in turn will minimize the risk of complications mentioned above.

1.2 SELF-MONITORING OF BLOOD GLUCOSE (SMBG)

Self-Monitoring of Blood Glucose (SMBG) means diabetes patients measure their blood sugar level themselves using a glucometer. This SMBG approach can be followed by patients to monitor their degree of diabetes on a regular basis.

As per the American Diabetes Association, the table below indicates how frequently one should monitor the Blood Glucose levels [4].

Situation	Recommended self-monitoring times and frequency
Patients taking daily insulin injections or insulin pumps	At least 3 times daily (Before meal, after meal, before Bedtime).
Patients with type 2 diabetes taking insulin secretagogues.	Twice in a week.
Newly diagnosed with type 2 diabetes	At least 1 time a day (to check effects of various meals and medication)
Patients with type 2 diabetes taking antidiabetic medication with no hypoglycaemia or lifestyle risks.	Once in week or two weeks

Even though it is necessary to monitor the blood sugar levels frequently to enhance the self-care, people are quite hesitant about SMBG. There are certain reasons behind that such as

- the cost of test strips and needles which are used for the test
- frustration of getting high blood glucose reading
- fear of needles, fear of frequent skin pricking

- inconvenience to use the glucometer at workplace
- lack of self-efficacy and knowledge.

2. NON-INVASIVE GLUCOMETERS

NIR Spectroscopy says that the correlation between the photodiode output voltage and the glucose concentration is directly proportional to each other. So, by using Polynomial Regression we can predict the glucose concentration value by passing the voltage value to the equation. Here we are using scilab software for the regression process. The initial voltage reading is derived by Multimeter.

To form a non-invasive glucose monitoring system, it is important to calibrate that system with the help of the conventional method of glucose monitoring. For that different known samples are taken into consideration. Voltage values from different known samples are compared with glucose level measured by conventional method of testing blood glucose. The method of regression is used in algorithm for calculating blood glucose level of unknown samples. In non-invasive methods to achieve the voltage value from samples different sensors can be used. Some of which are discussed in this paper.

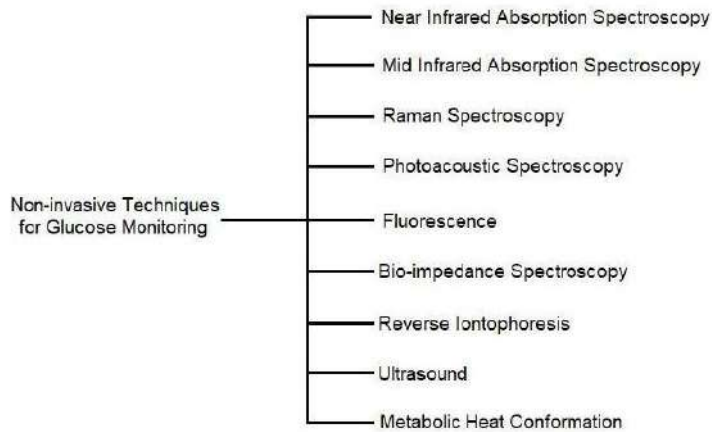


Fig.3 Different Non-invasive Techniques for glucose monitoring

1. Near Infrared absorption spectroscopy:

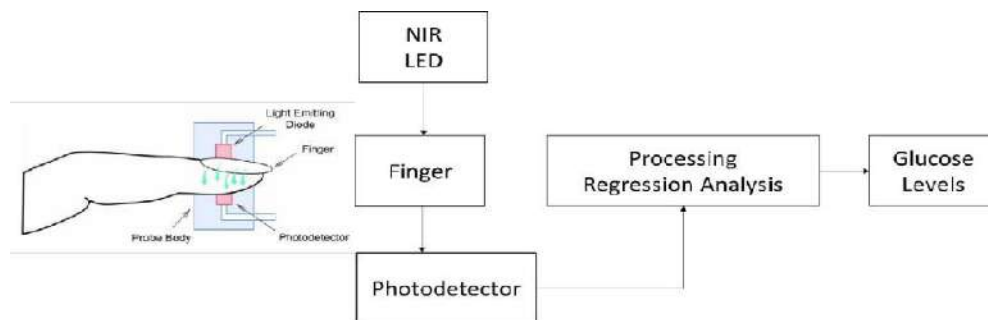


Fig.4 Near Infrared Absorption Spectroscopy for glucose monitoring

Near-infrared region of the electromagnetic spectrum has a wavelength from 780 nm to 2500 nm. In general, IR rays passing through a liquid sample are absorbed by a compound to be tested, and samples are identified based on difference in their absorbing capacity. It is based on collecting absorption spectra of the tissue with a spectrophotometer. The IR light is focused on the body which then gets partially scattered and absorbed. Tissue properties and characteristics are then measured by light attenuation resulting from absorbance and scattering properties. Changes in the absorption

corresponding to water displacement or difference in its intrinsic absorption change the glucose concentration, which in turn changes the measured absorption coefficient. The intensity of light which is scattered by the tissue is also affected by changes in glucose concentration. In order to check glucose level by NIR spectroscopy, the best site is forearm skin, earlobe, cheeks, tongue and nasal septum or lip mucosa.

2. Mid Infrared absorption spectroscopy:

Mid Infrared spectrum has a wavelength in the range of 2500-10,000nm. This wavelength is longer than NIR. It results in less scattering and more absorption. The penetration length of MIR light is up to 100µm in human skin. To overcome this limited light penetration problem because of the large absorption coefficient, a method called attenuated total reflection (ATR) is used. In this method, a flexible hollow infrared optical fiber with a diamond (ATR) prism is used.

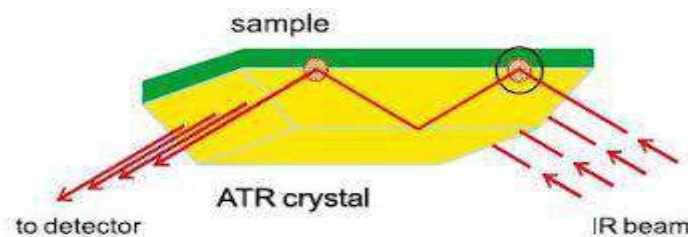


Fig.5 Mid Infrared Absorption Spectroscopy

In this method, glucose level is expected to be measured in oral mucosa with high precision because of following reasons-

- Optical fibers are non-toxic
- Mechanical and chemical stability of fiber and ATR prism
- Flexibility

Glucose concentration is then predicted with data processing technique such as partial least square regression. One should have a test on finger or oral mucosa to get best results using MIR spectroscopy.

3. Raman Spectroscopy:

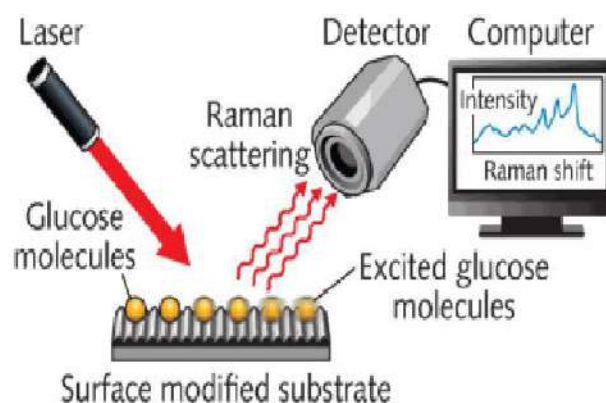


Fig.6 RAMAN Spectroscopy for glucose monitoring

The phenomenon where a very small portion of scattered light shows wavelengths dissimilar from that of the exciting laser beam is known as the Raman Effect. The detection method is based on Raman effect, i.e. the inelastic scattering of monochromatic light. Inelastic scattering means frequency of the photons is changed when it interacts with the sample/ human body. The frequency

of re-emitted photons is shifted-up or down with respect to original laser light, called Raman shift. This frequency shift gives information about molecular vibration in human fluids containing glucose. The scattered light from the human body is affected by molecular vibration. Because of this, glucose concentration in human fluids can be estimated. For Raman spectroscopy, the best site in the human body for glucose detection is Forearm.

4. Photoacoustic Spectroscopy:

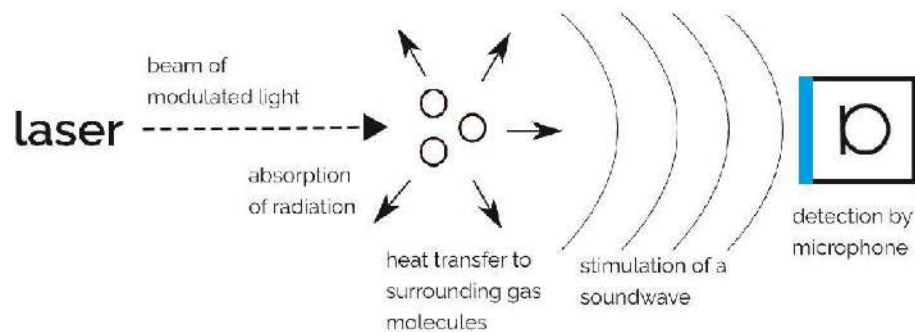


Fig.7 Concept of Photoacoustic Spectroscopy for glucose monitoring

In a photo-acoustic method, blood glucose is excited with laser pulses for very short period. light is absorbed by the PA cell in terms of its optical properties and stimulates subject's molecules. The absorbed energy is then released in the form of heat. Because of this phenomenon, volumetric expansion take place generating an acoustic wave. Piezoelectric transducer detects this acoustic wave and pass the data to controller. The data is then processed statistically to extract aa the changes in parameters. The measured acoustic wave provides information about the amount of glucose. With the amount of Glucose content, the amplitude of the sound waves changes. By measuring this change in peak-to-peak value, the glucose level is determined. To conclude, this detection method is based on conversion of optical energy to acoustic energy. To get the best results, it is recommended to have a test on forearm or finger.

5. Fluorescence:

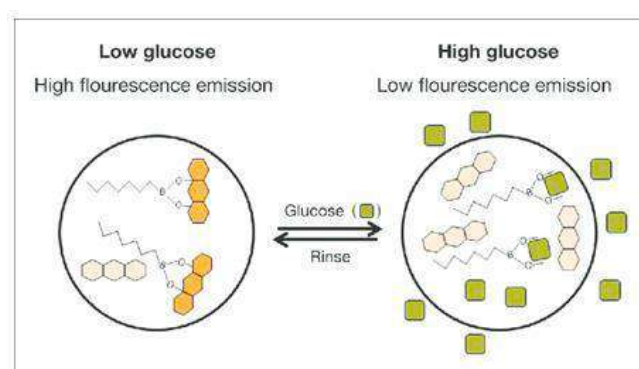


Fig.8 Florescence technique for glucose monitoring

When ultraviolet laser light of wavelength 380nm falls on human tissue, the fluorescence is generated by that tissue. The reflected light comprises of induced emission of light. This induced emission is due to the interactions between the glucose molecules in tissue fluid and the excitation light. The light reflected is detected by a sensor device. Depending upon the intensity of the light detected, glucose level in the blood is estimated. To estimate this glucose concentration in the sample

collected, partial least square regression statistical analysis is carried out. The flaw in this system is that the use of ultraviolet light on tissue could lead to strong scattering phenomena, in addition to fluorescence. Certain skin parameters, such as pigmentation, redness, epidermal thickness or blemishes can affect the result as it will change the fluorescence. Fluorescence based contact lenses have been developed for the detection of glucose concentration in tears. These disposable lenses are easy to use and are portable. With the change in concentration of the glucose, the colour of contact lenses also varies. These hydro-gel based soft lenses are safe to be used daily by diabetic patients.

6. Metabolic heat conformation:

The direct influence of glucose concentration with body temperature is already proved in 2010. The factors like metabolic heat, oxygen supply and concentration of glucose affect the homeostatic circadian rhythm of human body. Hence, glucose concentration can be measured by following the conceptual equation.

Glucose concentration = F (heat generated, blood flow, Hb, HbO₂)

Where Hb= hemoglobin and HbO₂= oxygenated haemoglobin

A thermopile detector inside the sensor is used to measure radiation temperature of the finger. While the blood flow rate is estimated by measuring temperature difference between thermistors during contact of finger with the sensor. The next step is to measure concentration of Hb and HbO₂ using diffuse reflectance spectroscopy. The glucose concentration is estimated by applying stepwise regressions and a calibration function is performed.

7. Bio-impedance Spectroscopy:

Bioelectrical impedance analysis has been used as a non-invasive technique for glucose monitoring. The ratio of an injecting current to a resulting measured voltage is calculated which will give the change in impedance. This impedance spectrum is used to estimate electrical properties of samples by using an equivalent electrical model of the material under study. The first study of non-invasive continuous glucose monitoring system involving impedance spectroscopy was published by Cardiff's group in 2003. Based on this theory, Pendragon has developed a wrist glucose monitor called Pendra. This device collects information of a LC resonance circuit in the range of 1 MHz to 200MHz, with the skin working as dielectric from the capacitor. One limitation of this research is that it requires an equilibration process, where the patient must rest for 60 min before starting measurement.

8. Reverse iontophoresis:

By applying a low-level electrical current, glucose can be extracted through the skin by electro-osmotic flow. 'Reverse iontophoresis' is a term used to describe this action. Reverse iontophoresis is sometimes labelled as a "minimally invasive" technology as it needs the access to a small amount of interstitial fluid underlying the skin. To check that, the circulation of a low-level electric current from anode to cathode located on skin surface is calculated. The primary current is produced by migration of sodium ions. It leads to cause a convective flow (electro-osmotic flow) of the interstitial fluid (ISF), which along with carries glucose molecules towards the cathode with it. The glucose sensor is placed at the cathode side to measure glucose level directly by enzymatic approach i.e., oxidation by an enzyme, such as glucose oxidase.

9. Ultrasound:

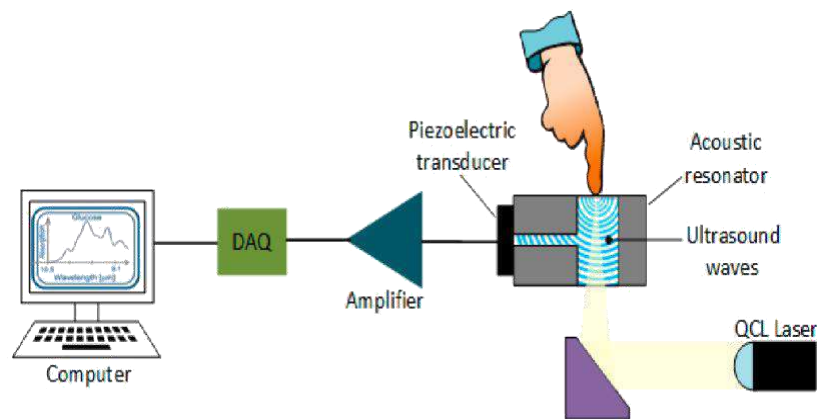


Fig.9 Ultrasound method for glucose monitoring

This technology measures the propagation time of ultrasound waves through the subject. The higher the glucose concentration, the faster the ultrasonic wave propagates through the media, hence reducing the time of propagation. The fluid or tissue has a certain degree of compressibility depending on the strength of intermolecular bonding forces and the density of the medium with the help of which the acoustic velocity of low-frequency waves through the media is estimated. Because of the change in linear impedance, the changes of the glucose concentration in the extracellular fluid affect density and adiabatic compressibility.

3. CONCLUSION

A lot of research has been done over the years to develop non-invasive techniques for monitoring of glucose. Our paper provides a comparative study of different techniques used till the date, and the principles of their application. The purpose of this paper is to suggest various non-invasive methods for measuring blood glucose concentration and such methods would be useful even for people without illness, addressing preventive care.

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PSYCHOLOGICALLY ASSISTED PREDICTION OF ACADEMIC PERFORMANCE WITH MACHINE LEARNING FOR DEGREE COLLEGE STUDENTS OF MUMBAI.

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Abstract: It is often difficult to know the area we are interested in at the beginning of our learning career and many of us choose a learning style that may not be in line with our personality or interests. Making the right decision about our career path in the options available is crucial as all of our educational and career progress depends on these choices initially. This complex decision-making process requires a comprehensive learning strategy to predict the student's interest and to align it systematically with the right career path. The paper demonstrates the importance of student psychology as well as learning and study skills in predicting academic performance. The experiment was carried out on final year students' data. Machine learning algorithms used to detect the prediction of it.

Index Terms – Machine Learning, Decision Tree, Academic Achievement, Emotional Intelligence.

I. INTRODUCTION

Education is as old as humanity. From the beginning of civilization, it was considered an integral part of human society. It should therefore be reviewed according to the needs of the community as well as the individual. Perhaps modern education does not guarantee a successful life. Education in our high schools is simply to acquire knowledge of textbooks and scorecards, instead of shaping a successful future, teacher-student interaction, understanding, and managing emotions in a timely, timely manner. Our past experience and observations clearly show that even the most intelligent human beings do not always succeed in life. But why is that. Therefore, this vacuum is made during the year. Many psychologists and academics have tried to close the gap between success and failure. Emotional intelligence is a form of social intelligence that combines the ability to monitor one's own and others' emotions, to discriminate between them, and to use knowledge to direct one's thinking and actions (Salovey & Mayer, 1990). The broad range of emotional intelligence includes word-for-word analysis and emotional expression, controlling my emotions with others, and the use of emotional content in problem solving. Emotional intelligence (EI) is a concept recognized in social science literature. Emerging research in the field of education suggests that EI is positively associated with academic success. Emotional intelligence (EI) is increasingly being discussed as a potential role in other areas of health care, both personal hygiene and work ethic. EI is linked to academic performance and learns from other professions. EI was also linked to health outcomes. For example, Salovey et al in their study found that college students who scored higher on emotional intelligence were more likely to recover from depression and were less likely to become ill when under stress. The term 'Educational Success' is a very broad, descriptive term that is usually a learning outcome for students. The success of these learning outcomes requires a lot of systematic and systematic knowledge so learning is called a process. In this process of experiencing a change in behavior one cannot say all those students experience the same level of change at the same time. Learning affects three major areas of student behavior, mind, Active, Psycho motor. It is difficult to say without proper evidence that students reach the same level in all three domains at the same time. Students can be at a higher level in one domain and a lower level in another domain. This means that the student may have different levels of achievement in different areas. Since the areas of the affective and psycho-motor domain cannot be adequately explored, it is usually customary to limit school term performance to the level of student achievement in areas of comprehension in various school subjects.

II. OBJECTIVES OF STUDY

To Study Impact of psychological factors in prediction of student's academic performance using Machine Learning.

III. LITERATURE REVIEW

Elizabeth J. Austin, Phillip Evans, Ruth Goldwater, Victoria Potter (2005) conducted study on "A preliminary study of emotional intelligence, empathy and exam performance in first year medical students". A group of 156 first year medical students completed measures of emotional intelligence (EI) and physician empathy, and a scale assessing their feelings about a communications skills course component. Females scored significantly higher than males on EI. Exam performance in the autumn term on a course component (Health and Society) covering general issues in medicine was positively and significantly related to EI score but there was no association between EI and exam performance later in the year.

Raymond M O'Connor, Ian S Little, conducted study on "Revisiting the predictive validity of emotional intelligence: self-report versus ability-based measures, Personality and Individual Differences". In response to general press assertions that training emotionally intelligent children will lead to great rewards, this study examined the relationship between emotional intelligence (EI) and academic achievement in college students, using both self-report and ability-based measures of EI. Specifically, the Mayer, Salovey, Caruso Emotional Intelligence Test (MSCEIT, an ability-based measure) and the Bar-On Emotional Quotient Inventory (EQ-i, a self-report measure) were used to predict academic achievement. Achievement was operationalized as the respondents' cumulative GPA.

Ioannis Tsaousis, Ioannis Nikolaou conducted study on "Exploring the relationship of emotional intelligence with physical and psychological health functioning". This study investigates the relationship of emotional intelligence (EI) characteristics, such as perception, control, use and understanding of emotions, with physical and psychological health. In the first study, 365 individuals filled in measures of EI and general health. It was hypothesized that EI would be negatively associated with poor general health. In the second study, 212 working adults completed the same measure of EI and another measure, which apart from the standard information regarding physical and psychological health, provided also information about other health related behaviours, such as smoking, drinking, and exercising.

Dharanendruppa, S. N. conducted study on "A study of relationship among mental health emotional intelligence and academic achievement of secondary school students". This study investigates the relationship of mental health emotional intelligence and academic achievement of secondary school students.

3.1 Population and Sample

Real-time data is gathered by surveying 150 students and having them complete an online questionnaire. The questionnaire includes questions about previous year scores and personality traits. Separately, the data was compiled in a CSV file for two phases of implementation. The compiled data included the student's first and last name, registration number, matriculate score, pre-university examination score, CGPA of six semesters, LASSI scale scores, and personality type. The Min Max Algorithm is then used to normalize the data. The data is divided into two sets, one for training and one for testing, in a 70:30 ratio.

3.2 Theoretical framework

The Neural Networks perform better in terms of capturing nonlinear trends in data and providing numerical predictions. It was used in the current experiment to calculate the CGPA of a single student in the sixth semester. The Decision Tree algorithm is used to classify students into the Pass or Fail category. The experiment's main goal is to show how psychological factors in students play an important role in predicting pre-final year grades.

A. Regression using Neural Network

The Neural Networks perform better in terms of capturing nonlinear trends in data and providing numerical predictions. It was used in the current experiment to calculate the CGPA of a single student in the sixth semester. The Decision Tree algorithm is used to classify students into the Pass or Fail category [3]. The experiment's main goal is to show how psychological factors in students play an important role in predicting pre-final year grades.

B. Classification using Decision tree

Decision Tree is a classification algorithm that decides whether a specific value should be accepted or rejected, and it provides with the set of the IF-Then rules for transforming present state to future state. The tree structure is used to represent decision tree in which variant types of the nodes are connected by the branches where the topmost node is called as root node and the leaves are called decision node.

C. Learning and Study Skills Inventory (LASSI)

The LASSI is a diagnostic tool that examines student thought processes and behaviors that influence the learning process. The primary focus is on the covert and overt thoughts that are required for success in the learning process and can be altered through educational interventions. It has ten scales that can be used to capture the thought process, including Attitude, Motivation, Time Management, Anxiety, Concentration, Information Processing, Selecting Main Ideas, Study Aids, Self-Testing, and Test Strategies.

Individual students are given online questionnaire forms, and the scores for each scale are determined based on the responses they provide.

4.RESEARCH METHODOLOGY

The experiment was carried out in three stages, using two techniques of regression and classification for numeric value prediction and classifying students into two types of classes, namely success and failure.

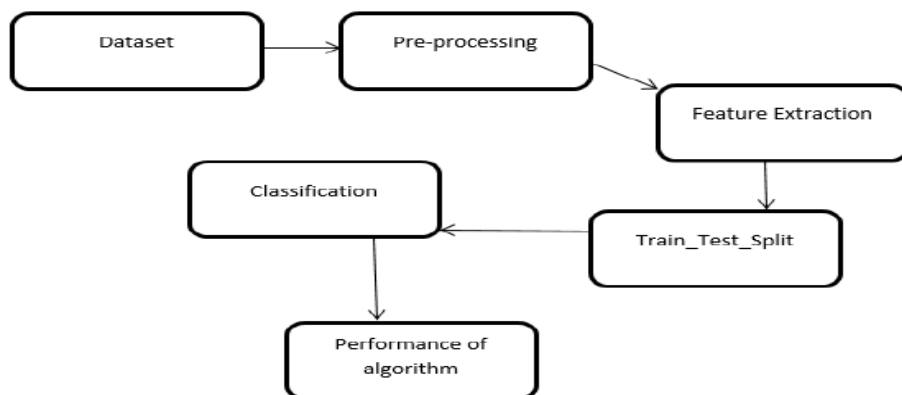


Figure 1: Students Performance Prediction Using Machine Learning.

4.1 Data Preprocessing

Individual student SEM6Score numeric prediction is done using Neural Network, and Decision Tree is used to classify students into two classes of PASS or FAIL. Both models are trained using the input data of the matriculate and pre-university board exam results, as well as CGPA five semesters. The models were assessed using MSE, accuracy, and confusion are all examples of correlation coefficients. The input for the Neural network and Decision tree included psychological factors such as motivation, concentration, information processing, time management, self-testing, study aids, and study main ideas, in addition to the previous phase inputs of matriculate and pre-university board exam scores and five semester CGPA. The models were evaluated once more using the correlation coefficient, MSE, accuracy, and confusion matrix.

Input variables	Output Variable
MATRICULATE PERCENTAGE	SEM6 CGPA
PRE-UNIVERSITY EXAM PERCENTAGE	
SEM1 CGPA	
SEM 2 CGPA	
SEM 3CGPA	
SEM 4CGPA	
SEM 5 CGPA	
MOTIVATION	
CONCENTRATION	
INFORMATION PROCESSING	
TIME MANAGEMENT	
SELF TESTING	
STUDY AIDS	
STUDY MAIN IDEAS.	

4.2Modelling the Decision tree

The Decision Tree in this phase gave the same binary prediction of Pass (1) or Fail (0) class. Decision tree prepared on the variable motivation, consternation, study Aids, Time management.

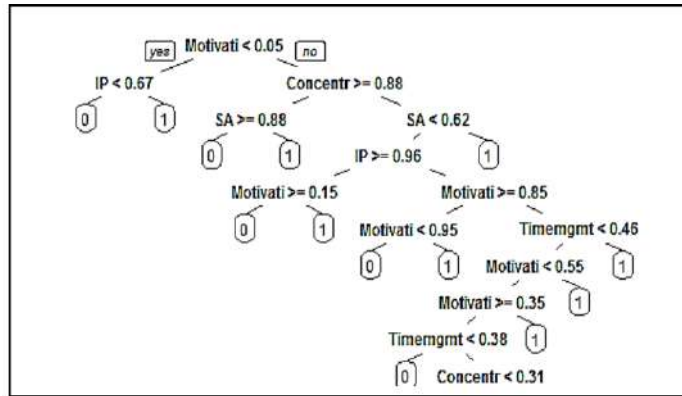


Figure 2: Decision Tree Mapping

IV. RESULTS AND DISCUSSION

In Decision Tree evaluation, sensitivity denoted the proportion of correctly classified passed students, specificity denoted the proportion of correctly classified failed students, and accuracy defined the proportion of correctly classified success and failure. The rate of accuracy was found to be higher in PHASE 2 than in PHASE 1. The number of true positives and false negatives increased after the psychological factors and learning and study skills data were added. Correlation analysis was performed between the SEM6 Score output variable and the LASSI scales. The correlation matrix revealed that the SEM6 Score had a positive correlation with motivation, information processing, and study aids. This demonstrated the student's motivation, as well as how they perceived the information provided to them and how they used it.

Conclusion

Improving the education system is a major challenge; however, we can assist in achieving this goal by utilizing technologies and study resources such as machine learning materials to develop an innovative solution to assist students in need, particularly students who live in difficult circumstances. In this paper, we came up with the idea of developing a model that predicts students status based on various functionalities. Study demonstrates the importance of thought process in predicting academic performance of students. The precise prediction will aid in the planning of students who are underperforming receive remedial coaching and assist them in improving their grades in upcoming semesters. A professor can easily obtain an overview of his or her class performance. Before the examination and can plan student counselling as well as additional teaching hours for the needy students.

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Virtualizing the Trusted Platform Module

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ABSTRACT:

The Trusted Platform Module (TPM) is an anti-distraction tool that provides the basis for confidence in a secure computer system and remote authentication frameworks. In this paper, we briefly discuss TPM structures, functionality and services. This highlights the important role that the computer ecosystem plays in architectural design decisions related to the basis of trust in the construction of a trusted platform. When developing and researching new trusted computer technologies, the right tools to investigate their behavior and evaluate their performance are very important. In this paper, we introduce Unix's efficient and portable TPM emulator. Our emulator empowers not only the use of flexible and inexpensive beds and simulations but, moreover, provides trusted programmers a powerful tool for diagnosing and eliminating error that can be used for educational purposes. Due to its versatility and interoperability, the TPM module works in a variety of platforms and is compatible with the most suitable software packages and workspaces.

1. INTRODUCTION:

In the real world, lumbering elephants are exposed by the aggression of speeding midgets that goes with it. In the computer world, to establish trust in a distributed environment nature also follows the same speculation. The concept of a trusted platform based on the existence of a reliable and trustworthy tool that provides evidence of the given system status. How this evidence is interpreted depends on the requesting business. Trusting in this context can be defined as the expectation of the state of the system is as it is considered secure. This description requires an honest person as well a trustworthy business called the Trusted Platform Module (TPM) to provide trust evidence about the status of the system. Therefore, TPM is a reporting agent (witness) and not the inspector or enforcer of security policies. It gives the origin of reliance on which the interviewer relied on to ensure the current state of the system. TPM enables remote witnessing by digitally signing cryptographic hashes of software components. Realization of TPM is necessary in order for its power to be available to all virtual machines operating in the platform. Each virtual machine that needs TPM functionality should be made to feel like it has access to its own private TPM, although there may be more virtual machines than TPM portable systems in the system (usually there is one TPM for each platform). It is therefore necessary to create a number of virtual TPM scenarios, each of which faithfully mimics the functions of TPM hardware.

WHAT IS TPM AND WHAT IS ITS USE?

In basic terms, TPM (Trusted Platform Module) is a hardware chip that is responsible for protecting your PC from ransomware and any other form of hacking and malware. A cryptoprocessor that holds the keys to sensitive information, including your PC PIN or password, Windows Hello verification data, BitLocker encryption keys, important security keys, and more. As it is a hardware-based module,

a malware program cannot use it in standard software. Thus, the TPM chip becomes a high "root of trust", based on the hardware the OS can always rely on. To provide a similar example in the Android world, Google Pixel



phones come with a Titan M security chip that verifies firmware and checks for crashes before launching the device. In addition, the Titan M chip also protects your payment information, lock screen code, and other sensitive information. Samsung also added a unique Knox chip that enables hardware-based authentication of passwords, payments, confidential files, etc. All of this shows that hardware-based protection is the way to go, and Microsoft is well on its way to implementing the TPM Windows 11 requirement.

WHY IS TPM ESSENTIAL FOR WINDOWS 11?

There is no denying that Windows computers are a favorite of hackers and complex attackers. Mainly because of how easy it is to install applications from the web or automatically create text on Windows that eventually infects the entire system. Remote killings are another popular way for hackers to exploit an compromised PC. Gone are the days when low-risk germs blocked the Task Manager, and you would have to use an antiseptic system to fix things again. According to Microsoft, 83% of business attacks experienced in the last two years were “firmware attacks.” Firmware attacks mean exploiting the motherboard firmware itself, controlling hardware components, modifying startup process, and making code injection an easy task. The main purpose of the firmware attack is to steal sensitive information such as Windows Hello fingerprints/ facial data, bank details, Microsoft details, encryption keys, among other things. The threat of firmware attacks is very high. Therefore, TPM is required to protect your sensitive information in Windows 11. Attacks have become so complex that even TPM has failed to protect cryptographic keys against the latest Specter and Meltdown threats. It is therefore natural for Microsoft to create a secure, hardware-based authentication system so that users can stay on the safe side as we move forward.

WHICH PROCESSORS HAVE BUILT-IN TPM SUPPORT?

The TPM module usually comes with a built-in CPU, but on custom PCs, you'll find a TPM header on the motherboard where you can attach a compatible TPM module. At least since 2014, almost all processors came with a TPM module on board. Intel began to integrate TPM into its chips with the formulation of Haswell (2013, 4th-Gen) without the K series, which acquired the Trusted Platform Module integrated with 6th-Gen (2015). So I can imagine that, Intel-powered Windows PCs after 2014 have support for TPM 1.2 or 2.0. You need to enable it in the BIOS / UEFI menu. To give you an example, I have an Intel i5 6th-gen processor, and TPM 2.0 is available on my PC. I should have just enabled it from the BIOS. And if you wonder, do AMD processors also support TPM? However, the answer is yes. The TPM security chip is directly integrated into the CPU from Ryzen 2500 (2017)

onwards. Below, you can find steps on how to turn on TPM on your Windows 10 PC.

TPM KEYS.

TCG keys can be classified as signing or final keys. Other key types defined by TCG are the keys to Platform, Identity, Binding, General and Legacy (Trusted Computing Group, 2007).

Signing keys can be classified as keys for general purpose and asymmetric in nature. Application data and messages can be signed by TPM using the signature keys. Signing keys can be moved between TPM devices based on existing limits. Storage keys are asymmetric keys and are mainly used to encrypt data with other keys and folding keys. Authentication ID (AIK) keys are used to sign TPM-related data as PCR register values. AIK signs keys that can be exported. Authorization Key (EK) is used to decrypt authorization information and private messages created by AIK. EK is not used for encryption or signing and cannot be exported. Merge keys (equal keys) help to encrypt data on a single platform and move it from one encoder to a different location. The die keys can be imported without TPM and used for signing and encrypting data. Verification keys are responsible for protecting TPM-related transit times and are similar in nature.

Authentication Key (EK) in TPM plays an important role in maintaining system security. TPM uses the secret key EK to generate some keys locked in a particular EK. EK should be protected and protected from exposure. A 160-bit AIK verification value is required to use AIK with TPM (Sparks, 2007). The parent key used to generate other keys must be pre-downloaded and approved by users before TPM can load all other keys. EK is different from TPM and is embedded within a stable static memory (Angela, Renu Mary, & Vinodh Edwards, 2013). Public EK is used to create AIK certificates during the data encryption process within TPM. EK private key pair is not touched when generating signatures. Many AIKs can be stored within TPM to ensure anonymity between various service providers who need proof of identity. AIK keys should be stored in a secure external storage area (excluding TPM) to enable them to persist. AIKs can be loaded into flexible memory in TPM when used.

TPM has a Storage Root key that you persist. Keys are permanently stored in TPM due to limited storage space. A brief description of the process involved in key generation, encryption, and decryption in TPM is described below (Osborn & Challener, 2013). The new RSA key is generated by TPM when the key creation request is initiated by the software. TPM adds value to the RSA key, adds authorization data and data is encrypted using the public root Root Key Storage and sends the encrypted “bridge” to the requested software. The request is sent for the key to be downloaded from the blob repository when requested by the software program. TPM uses the Storage Root Key to clear encryption and verify the amount of credentials and password before uploading the key to the TPM memory. This uploaded key is called a “parent” and can be used to create the next key that creates the most important categories.

KEY FEATURES OF TPM.

- Turnkey solution: TPM incorporates integrated, secure and secure cryptographic key storage, encryption, and authentication information.
- Full TCG Compliance: According to TCG, applications based on reliable computer infrastructure demonstrate high security governance and risk management.

- Hardware security: TPM includes a random number hardware generator for high quality, effective protection, and a variety of interference detection and response circuits.
- High performance: TPM cryptographic accelerator can calculate RSA 2048-bit signature in 200 ms.
- Energy saving: TPM supports SIRQ Disruption and CLKRUN to allow the installation of energy-saving clocks on laptops.
- Software support: BIOS and hardware drivers are available for both Windows® and Linux® applications; third party system and application software are also available
- Two interactive locations: There is a 33 MHz LPC interface for PC integration and a 2 wireless interface for non-PC and embedded computer systems.

ADVANTAGES OF TPM:

- The main and most important benefit of TPM is that it protects confidential information.
- Provides authentication features for both software and hardware.
- Security is enhanced with this asset because it does not depend on a software-based application.
- If you want to use TPM on mobile phones, you can encrypt all your phone's hard drive.
- Now, if you are thinking about how to share this data with your peers or server. Then you can use the time certificate.

DISADVANTAGES OF TPM:

Contrary to the benefits of TPM, there are also many disadvantages as follows:

- The worst is the danger of the bug.
- TPM does not protect the system from cold boot attacks.
- TPM simply provides protection against system theft. In contrast, it does not consider online threats and system attacks or stored information.
- Its operating process is very long, as its tools use the key finders until the right key is activated.
- Other studies also show that, while restarting the system. TPM returns the encryption key while the system is connected to an external drive. At that point, the hacker can easily remove the disk write.
- In addition, it sometimes indicates a problem in connecting or using the appropriate software.

2. CONCLUSION

TPM supports hardware and software to protect confidential data. Provides a solution for various data encryption and security issues. However, you should also be aware that the Trusted Platform Module is not universally accepted. Some countries have restricted the use of TPM for example China. TPM adds hardware-based security benefits to Windows. When installed on hardware that integrates with TPM, Windows brings significantly improved security benefits. Microsoft and other industry partners continue to develop TPM-related international standards and acquire additional applications that they use to deliver tangible benefits to customers. Microsoft has included support for many TPM features in its Windows IoT Core version of Windows IoT Core. IoT devices may be used in virtually unprotected environments and connected to cloud services such as Azure IoT Hub management can use TPM in new ways to address their emerging security needs.

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Research on Methodologies for Information Extraction

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Abstract

The new era of Information has brought a lot of new opportunities in the domain of automation. As lots of new data in various formats are being stored and then mined for useful insights one such format which has created the deepest impact in overall automation domain is mining textual data to get the important stuff out of it and then use that for various different analysis and decision making to various levels of automation. In this paper various methods for Information Extraction will be discussed and one of the methods in conclusion will be chosen for implementation.

Keywords: *Information Extraction, Data Mining, Automation, NLP, Information Processing.*

1. Introduction

Information Extraction is one of the main domains of research in Artificial Intelligence. Various methodologies that use syntactical properties of the text combined with Machine Learning has been implemented. Two types of such methodologies that have been discussed here are Rule Based Information Extraction Methods and Classification based Extraction Methods. Rule based Information Extraction methods basically use syntactical rules to extract needful Information whereas Classification based Extraction methods try to implement different techniques to classify important and non-important data from the given text.

2. Literature Review:

NLP based Information Extraction methods have been there since 19's and various works have been performed as well. There are several successful methodologies that is being used today in various text related applications such as AutoSlog (Riloff, 1993) that uses a sentence parser to parse the natural language, Crystal (Soderland, 1995), (LP)2 (Ciravegna, 2001), etc.

3. Objective:

Objective of doing this research paper was to find a method or a combination of them from, a whole library of methods, that can be implemented in our project which requires a method that is able to extract information from a given sentence using as less data as possible to get trained, with capabilities of domain specific learning and information extraction.

4. Research Methodology:

This paper is a cumulative study of various methods based on NLP techniques to Extract Information which has been taken from various research papers published by the experts of the domain. Rigorous study has been performed to analyse the referenced papers and a comparative method is been used to identify the method that suits our project needs. This paper in a nutshell provides the comparative study of two types of NLP based Information Extraction Methods which are:

- 1) Rule Learning Based Extraction Method
- 2) Classification based extraction Method

There are other ways as well such as Sequential Based Extraction Method which are mostly for generalising purpose which does not fulfil the domain specific requirement of our project thus being the reason of not being one of the models to study.

Rule Learning Based Extraction Method:

For Rule Learning Based Extraction Method, we went through the paper of one of the domain experts which is Information Extraction: Methodologies and Applications (Tang et al) which provides in detail explanation with sub topics and generalized idea of the Rule Learning Based Extraction Method. Below we provide a brief understanding of the topic:

In general, the methods can be grouped into three categories: dictionary-based method, rule-based method, and wrapper induction.

Rule Based System the rule-based method uses several general rules instead of dictionary to extract information from text. Two main rule learning algorithms of these systems are: bottom-up method which learns rules from special cases to general ones, and top-down method which learns rules from general cases to special ones. There are proposed many algorithms, such as (LP)² (Ciravegna, 2001), iASA (Tang, 2005b)

It learns two types of rules that respectively identify the start boundary and the end boundary of the text to be extracted. The learning is performed from the examples in a user-defined corpus (training data set). Training is performed in two steps: initially a set of tagging rules is learned; then additional rules are induced to correct mistakes and imprecision in extraction.

Dictionary based method

Traditional information extraction systems first construct a pattern (template) dictionary, and then use the dictionary to extract needed information from the new untagged text. These extraction systems are called as dictionary-based systems (also called pattern-based systems) including: AutoSlog and autoslog-ts.

The key point in the systems is how to learn the dictionary of patterns that can be used to identify the relevant information from a text. Each AutoSlog concept node has a conceptual anchor that activates it and a linguistic pattern, which, together with a set of enabling conditions, guarantees its applicability. AutoSlog needs to parse the natural language sentence using a linguistic parser. The parser is used to generate syntax elements of a sentence (such as subject, verb, preposition phrase). Then the output syntax elements are matched against the linguistic pattern and fire the best matched pattern as the result pattern to construct a pattern dictionary.

Classification Based Extraction Methods

The basic idea is to present information extraction problem as that of the classification.

Boundary detection using classification model

This system consists of two distinct phases: learning and extracting. In the learning phase our system uses a set of labelled documents to generate models which we can use for future predictions. The extraction phase takes the learned models and applies them to new unlabelled documents using the learned models to generate extractions. This model aims to generate the boundaries (start boundary and end boundary) for the special information.

For IE to text the whole document is converted into tokens such as words or sentences. Then two classifiers are learned one for start and one for the end boundary in positive and negative fashion where the start classifier marks positive the start boundaries and negative to the other whereas the second classifier does the vice-versa.

There have been many modifications to the above given methodology to overcome the problems related to it, which are discussed in the conclusion section below.

5. CONCLUSION

This section of the paper discusses the selection of the final model for the project based on the pros and cons as per the project requirements of the models.

Rule Learning Based Model:

Rule Learning Based Model as described above is one of the models that can be used to Extract Information based on a dictionary that the model itself creates using a syntax parser. The benefit of such model is that if the extracted dictionary pattern is of good differentiators, then the model will work best, but if the dictionary gets affected then the whole model will have to suffer. Building a good syntax parser hence becomes much more important than Extracting Information.

Classification Based Extraction Method:

Classification Based Extraction Method as discussed above is an extraction method which classifies information with other data using boundary classification. This model works well when the dataset is small but if data becomes large then the probability of the identified boundary to be right becomes very low, which shows that to make this model work we will require a model with high precision otherwise we would be stuck with just false positives. There are solutions to this problem such as, use of two-level boundary and others. As classification-based methods were aiming towards a more general domain of natural language processing, which basically becomes much bigger than our project domain. On the other hand, Rule Learning Based Extraction is what seems feasible seeing the projects needs of being domain specific and low data training capacity. So, we decided to go with the Rule Learning based Extraction keeping our window open definitely for bootstrapping in future as well.

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Virtual Laboratory – A Learning Enhancement Experience through NLP Application Design

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ABSTRACT

One challenge for teaching fraternity in current pandemic situation is to provide online virtual laboratory experimental education for various Information Technology and computer science courses, along with online lectures to students with a view that they feel like they are sitting in the physical laboratory and understanding and performing experiments, though it is virtual. This paper shares our experience of using Natural language Processing (NLP) virtual Lab for learning morphology, in which we have used various multimedia software which are open source.

Keywords: *virtual, laboratory, NLP, Morphology, open source*

1. INTRODUCTION

A virtual laboratory is a computer-based activity where students interact with the simulator. It can have no physical reality behind it at all. Morphology is a branch of linguistics to convey how words are formed from morphemes. The dictionary meaning of morphology is - the form of words, studied as a branch of linguistics

This paper aims to provide the complete design of Morphology – one of the NLP applications and provides the idea to students about what morphology is and how it is applicable to different languages. They can practice it with different root words given in the dropdown menu and apply their morphological ideas to the table. Upon getting the correct selection of ‘matra’, they can get the correct answer. Else, individual wrong mark in red will be displayed against that row of the table.

2. LITERATURE REVIEW

Virtual laboratory is also referred as Computer Based Simulation, Virtual Learning System, Virtual Lab System or just Simulations. Under the National Mission on Education through ICT the Ministry of Human Resource Development has initiated the Virtual Labs project. These labs will now be used by the students all over the country. In this paper, we are describing the steps for NLP Morphology Virtual laboratory by taking reference of existing virtual labs.

The traditional laboratories are easy to use and may sometimes be less expensive, but the virtual laboratories provide many advantages than the traditional labs. The virtual labs if properly designed taking into consideration the online multimedia instructional design principles can enhance the skills in the students. Due to the availability of virtual laboratories at anytime and anywhere, can give the students an opportunity to explore the experiments and reflect on the results obtained.

NLP is a field of Computational linguistics and is associated with human to convert information from computer to natural language using NLG (Natural Language Generator) and to convert reverse way using NLU (Natural Language Understanding). There are many Indian languages but mostly we consider Hindi language as an Indian language, when we compare it with English.

3. IMPLEMENTATION OF NLP MORPHOLOGY APPLICATION:

The virtual laboratory is designed using html, CSS and Java script, which are open source. This virtual laboratory is made user friendly, in which students can interact while operating the simulator of morphology. We have included total eight steps in this virtual laboratory, namely Broad Goal, Learning Objectives, Theory, Pre-Test, Procedure, Simulator, Post Test and References.

Broad Goal: The Broad Goal of the experiment is to understand the morphology of a word by these of Add-Delete table.

Learning Objectives: Students will be able to select the root word, delete the tense from the word to find the stem of the word, add the appropriate tense to make it the correct word asked as either singular or plural with direct (nominative like - he, they) case or singular or plural with oblique (like him, them) case, check whether the selected tense is correct as per the asked in the question, get the correct answer if couldn't complete it correctly

Theory of Morphology: Morphemes are considered as smallest meaningful units of language. These morphemes can either be a root word (play) or affix (-ed). Combination of these morphemes is called morphological process. So, word "played" is made out of 2 morphemes "play" and "-ed". Thus, finding all parts of a word (morphemes) and thus describing properties of a word is called

"Morphological Analysis". For example, "played" has information verb "play" and "past tense", so given word is past tense form of verb "play". Another example of Morphology is Motivation having various forms - motiv, motivate, motivation.

Procedure: There are only three steps to be followed by the user to operate the simulator. Users should select a word root, Fill the add-delete table and submit.

If students submit the correct pre or post word as asked in the question to convert the root word into singular or plural, past or present tense like un, s, es, ed, ing etc then the right mark in green displays and upon selecting the wrong pre or post word, a wrong mark appears in red color. If the answer is incorrect, then student has to again start from the step 1.

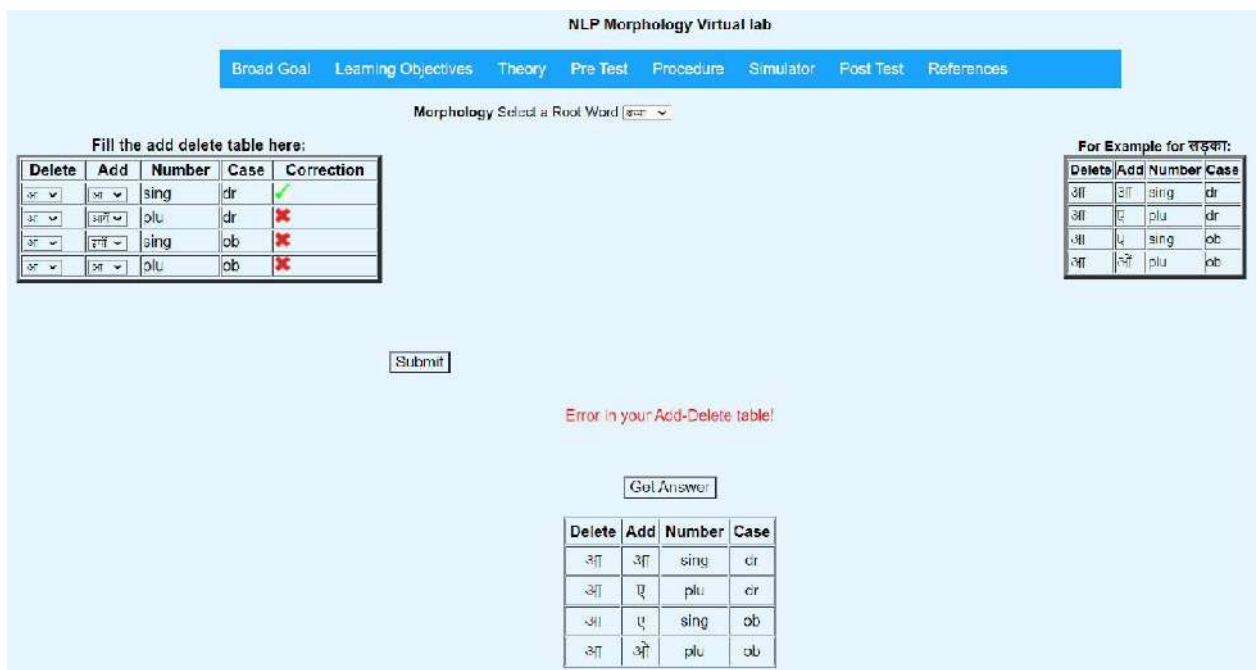


Figure 1(a): Overall design of virtual lab along with simulator with incorrect selection



Figure 1(b): Overall design of virtual lab along with simulator with correct selection

Simulator: It is the main task of designing the virtual lab. The Simulator diagram is shown below as per our design. Figure 1(a) shows the Overall design of virtual lab along with simulator, with incorrect selection done by students while learning morphology whereas figure 1(b) shows the Overall design of virtual lab along with simulator, with correction selection done by students while learning morphology. If a student is clueless about what to select then he/she can click on the Get Answer button to get the correct answer and after studying it, he/she can apply his/her own answer again to simulator.

As per the step 1, user or student has to select the root word. Then select the delete and add 'Matra' as per the asked in the question. Sing stands for singular, plu stands for plural. Ob stands for oblique case and dr stands for direct case. After selection done, user requires to click on submit button.

Upon selecting the correct answers, It shows all right marks in green in the table and displays the message 'correct answer!' in green.

There are pre-test and post-test designed to check whether student has understood it correctly or not. Students can appear any number of times to that test, basically because it is for improving their understanding and not for doing any kind of the evaluation. The pretest and post test are displayed in the figure 2(a) and 2(b) below:

NLP Morphology Virtual lab

Broad Goal Learning Objectives Theory Pre Test Procedure Simulator Post Test References

Answer the following questions after reading the Theory

Question 1.
 ----- should be deleted from the root word लड़का and ----- should be added to it to change it to singular and direct case.

आ and आ
 आ and ए
 आ and ए
 आ and औ

Question 2.
 ----- should be deleted from the root word लड़का and ----- should be added to it to change it to singular and oblique case.

आ and आ
 आ and ए
 आ and ए
 आ and औ

Grade Me Clear

Number of score out of 2 = Score in percentage =

Figure 2(a): Pretest

Broad Goal Learning Objectives Theory Pre Test Procedure Simulator Post Test References

Answer the following questions after using the Simulator

Question 1.
 ----- should be deleted from the root word लड़का and ----- should be added to it to change it to plural and direct case.

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 आ and ओ

Question 2.
 Finding all parts of a word and thus describing properties of a word is called _____ Analysis.

Morphological
 word
 structure
 root

Grade Me Clear

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Figure 2(b): Post test

CSS is designed to keep symmetry amongst all pages in terms of background, font size, borders etc. Java script is used to fetch the root word and also to fetch all words from the table and verify it whether the answer selected by student is correct or not. Accordingly, it displays the message. The submit button in html file calls the function in Java script to verify the answer.

4. FUTURE SCOPE:

This paper uses limited words for only one language. So, further enhancement can be done for all words of the language. But it seems difficult to do so. Other enhancement can be done that other Indian languages can also be added. For that one more dropdown menu can be kept in the beginning of the simulator about selection of languages. As per the language selected, some more words can be added for that language to study morphology. Further, in this paper we have worked mainly for noun but in future, more work can be carried out on verb and adjective also.

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In the current situation, the important goal is to supply security to women from problems with women's harassment. The sole thought haunting every girl is once they are going to be ready to move freely on the streets at any time without concern about their security. Over 34,600 cases of rape are reported across the country last year with Madhya Pradesh and Delhi topping the infamous list of states and union territories, these statistics were released by the Country's National Crime Records Bureau (NCRB) had revealed That's a large number! We propose a plan that changes the way everyone bothered women's safety. We propose to possess a tool which is that the integration of multiple devices, hardware comprises a wearable "Electro Shoe and GPS System" which is connected to a GPS tracker.

We present during this project a system developed for more convenient outdoor navigation. It involves the event of an influence harnessing smart shoes to help navigation and reduce the dependency of people on maps i.e. the requirement to constantly take a look at the maps for direction instead of specializing in the road. It involves of development of ELECTRO SHOE AND GPS SYSTEM to avoid wasting the ladies from the harassment and provide the precise location of the ladies. During this project, we make use of Arduino, RF Transmitter, and Receiver from these two components we are able to get the live location of the ladies. The Transmitter is programmed to transmit a live location and with the assistance of the Receiver, the live location is taken by the opposite device. Arduino is that the brain box of the program. Within the Electro shoe, we've got used electric battery for the electrical shock and also the GPS. And make use of the trigger button to begin the shoe for electric shock and therefore the GPS. From this project, the ladies get help to fight against rapists.

Keywords: Shoe, GPS/GSM, AC inverter, Arduino IDE, Breadboard, RF Transmitter, RF Receiver.

INTRODUCTION:

This is a security system that's designed to supply security to women in order that they never feel helpless while facing such critical situations. The particular work of my project is to present a shock of 220 volts and provide the live location of the girl. I can explain you in deep. I'm making electro shoes which will give an electrical current to the one who is teasing the girl or trying to harass the girl. And that I have put a GPS tracker which can give the live location of the girl to the police station and one amongst the relations of the girl.

So, we'll see what number Rape Cases are everywhere in India then we see the speed of Rape cases in individual States. So, let's see.

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EXISTING SYSTEM:

Keeping the identical concern in mind many developers have come up with innovative applications. A few of such applications are as follows:

VITHU APP:

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RAKSHAK APP:

One button application built specifically for ladies', senior citizens' safety. This application is employed in case of emergency where-in, on click of a button this application will send SMS having a current location to 4 different numbers and can also initiate a voice call to an emergency number. The numbers will be specified by the user at the time of installation.

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Need Compulsory Internet Connection to work. Assume when a girl is in peril, she is going to be in a panic and has less time to reply. At this time, it's difficult to enable data and press power buttons.

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Modules which we have utilized in our project:**GPS MODULE:**

A global positioning system (GPS) can determine the latitude and longitude of a receiver on Earth by calculating the time difference for signals from various satellites to succeed the receiver. In six different orbits approximately 12,500 miles above the planet, 24 MEO (Medium-Earth Orbit) satellites revolve around the earth 24 hours and transmit location every second additionally as present time from atomic clocks and by monitoring blood flow through the skin when is connected with the wrist band at each pulse. networked satellites and are tracked to uplinks data for synchronization. The system uses four frequencies within the land ranges from 1.2 to 1.6 GHz.

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ARDUINO IDE:

The Arduino Integrated Development Environment - or Arduino Software (IDE) - contains a text editor for writing code, a message area, a text console, a toolbar with buttons for common functions, and a series of menus. It connects to the Arduino hardware to upload programs and communicate with them. Programs written using Arduino Software (IDE) are called sketches.

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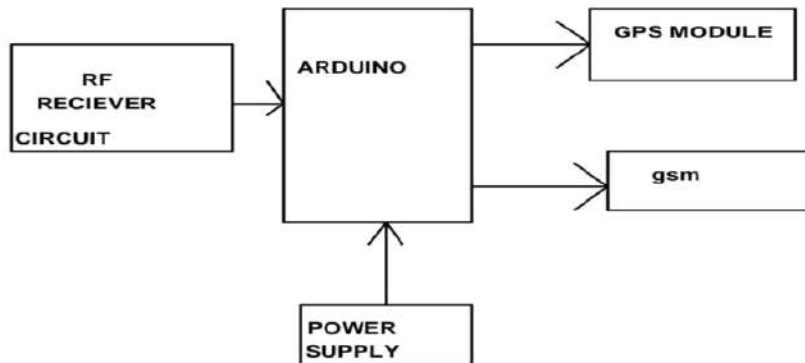
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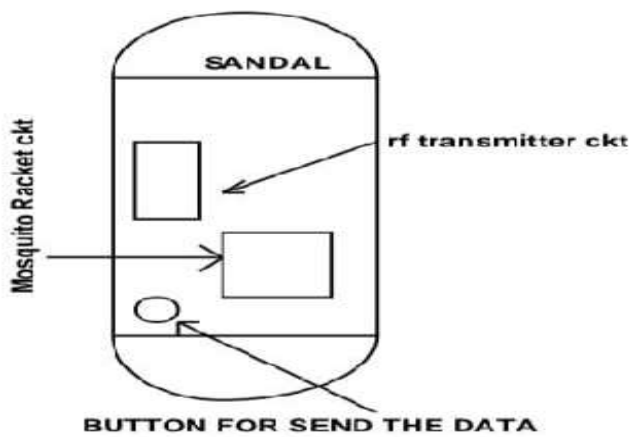
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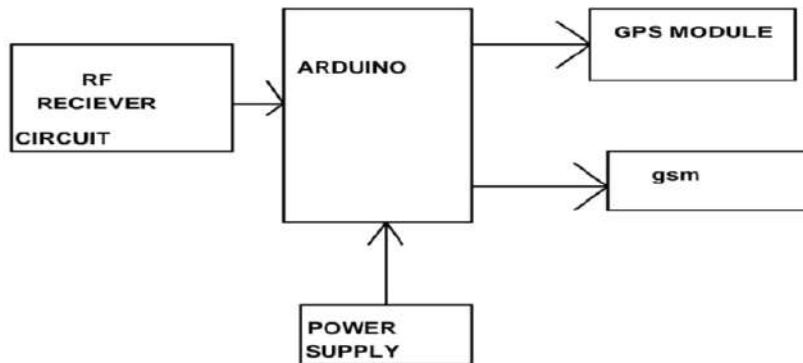
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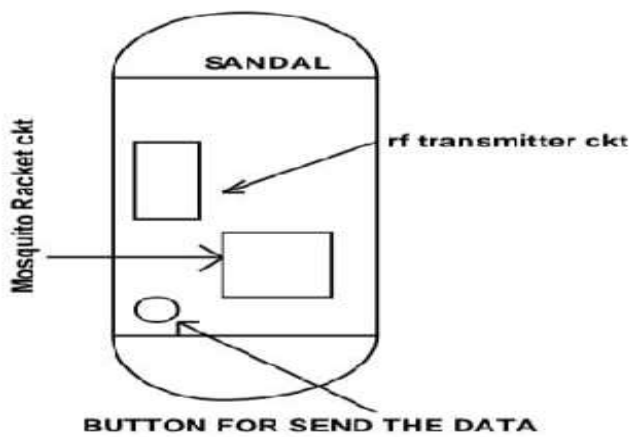
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Breast Cancer Risk Prediction System Using Machine Learning Model

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ABSTRACT

Breast cancer is the leading cause of cancer death in women, accounting for 16 percent of all cancer deaths worldwide. Owing to recent population growth in medical science, early detection of disease has become a critical issue. The risk of death from breast cancer is increasing rapidly as the world's population grows. Early diagnostics meaningfully increases the chances of correct treatment and survival, but this process is monotonous and often leads to a disagreement between pathologists. One of the best ways to fight cancer is timely detection, when it is still confined and can be fully removed surgically or treated pharmacologically. Computer-aided diagnosis systems presented the potential for improving diagnostic accuracy.

Keywords—breast cancer dataset, machine learning, Logistic Regression, prediction, IBM cloud

1. INTRODUCTION

Cancer is defined as the uncontrollable division of aberrant cells that destroy normal human tissue. Lung cancer, kidney cancer, breast cancer, bladder cancer, colorectal cancer, and many other types of cancer exist. Breast cancer is one of the most extensively prevalent diseases on the planet. Breast cancer is defined as the abnormal growth of breast cells in women, although it can also affect men. It is the most common malignancy among women, accounting for nearly 1 in 3 cancers diagnosed among women in the United States, and it is the second leading cause of cancer death among women. Breast cancer is caused by a combination of factors. Table 1 represents Several risk factors for breast cancer.

Non-modifiable risk factors	Modifiable risk factors	Environmental factors
1. Age 2. Sex 3. Genetic factors (5-7%) 4. Family history of breast cancer 5. History of previous	1. Menstrual 2. Reproductive factors 3. Radiation exposure 4. Hormone replacement therapy 5. Alcohol 6. High-fat diet	1. Organochlorine exposure, 2. Electromagnetic field 3. Smoking

breast cancer 6. Proliferative disease	breast	
---	--------	--

Breast Cancer occurs because of abnormal growth of cells in the breast tissue, commonly referred to as a Tumor. There are two types of tumors: benign and malignant. Benign tumors are non-cancerous and do not infiltrate or spread to other areas of the body, whereas malignant tumors are cancerous and can invade and kill neighboring tissue that spread to other parts of the body. When a malignant tumor (lump of tissue) develops in the breast, it is called breast cancer.

In this article, benign is represented by B, while malignant is represented by M. Doctors have a difficult and time-consuming process when diagnosing breast cancer in a patient at an early stage. However, by utilizing artificial intelligence, machine learning can assist in the effective and accurate prediction and detection of breast cancer. Machine learning allows a system to learn on its own and improve as it gains experience.

For prediction and accuracy computation, it employs a variety of algorithms. Breast cancer can be predicted using effective models such as logistic regression, SVC, KNN, decision tree, and random forest, which provide excellent accuracy. The highly effective model is evaluated using a 10-fold cross-validation test. The following parameters are used to validate the model: accuracy, RMSE Error, sensitivity, specificity, F-Measure, ROC Curve Area, and Kappa statistic, as well as the time it took to develop the model.

Author	Year of publication	Classifiers	Accuracy achieved
Aindrila Bhattacharjee, Payel Roy, Sourav Roy, Noreen Kausar, Sneha Paul, Nilanjan Dey	2016	Back Propagation Neural Network	99.27%
Hiba Asri, Hajar Mousanni, Hassan Al Moatassime, Thomas Noel	2016	Support Vector Machine	97.13%
Dada Emmanuel Gbenga, Ngene Christopher, Daramola Comfort Yetunde	2017	Support Vector Machine	97.07%
Vikas Chaurasia, Saurabh Pal, BB Tiwari	2018	Naive Bayes	97.36%

Jabeen Sultana, Abdul Khader Jilani	2018	Logistic Regression	97.18%
Farahnaz Sadough, Zahra Kazemy, Farahnaz Hamedan, Leila Owji, Meysam Rahmanikatigari, Tahere Talebi Azadboni	2018	Support Vector Machine	Ultrasound- 95.85%, Mammography- 93.069%, Thermography- 100%
Ricvan Dana Nindra, Teguh Aryandono, Lazuardi, Iwan Dwiprahasto	2018	Support Vector Machine	99.51%
R. Chtihrakannan, P. Kavitha, T. Mangayakarasi, R. Karthikeyan	2019	Deep Neural Network	96%
David A. Omondiagbe, Shanmugam Veeramani, Amandeep S. Sidhu [9]	2019	Support Vector Machine	98.82%
Anji Reddy Vaka, Badal Soni, Sudheer Reddy K. [10]	2020	Deep Neural Network with support value	97.21%

TABLE 2: Summary of Literature survey

2. METHODOLOGY

A. Dataset and Pre-processing

The breast cancer dataset has been retrieved from UCI machine learning. There are 569 occurrences this dataset, where the cases are moreover benign or malignant. For such cases, 357 (%) are benign, and 212 (%) are malignant. The class in the dataset is partitioned as B or M, wherever B corresponds to the benign case, and M corresponds to the malignant case.

The attributes entail in the dataset which is in the figure below eliminating sample code number and class level. The benign cases are identified as a positive class, and the malignant cases are recognized as a negative class in our investigate.

	A	B	C
1	id	area_se	
2	diagnosis	smoothness_se	
3	radius_mean	compactness_se	
4	texture_mean	concavity_se	
5	perimeter_mean	concave points_se	
6	area_mean	symmetry_se	
7	smoothness_mean	fractal_dimension_se	
8	compactness_mean	radius_worst	
9	concavity_mean	texture_worst	
10	concave points_mean	perimeter_worst	
11	symmetry_mean	area_worst	
12	fractal_dimension_mean	smoothness_worst	
13	radius_se	compactness_worst	
14	texture_se	concavity_worst	
15	perimeter_se	concave points_worst	
16	symmetry_worst	fractal_dimension_worst	
17			

Figure1: Attributes of the dataset

Data Preprocessing:

Data preprocessing is used to complement absent values, identify, or remove outliers, and solve self-contradiction. There are 16 absent values of traits present in the dataset. Furthermore, the dataset is working on random selection to confirm the proper circulation of the data. Training and Testing Phase The training phase extracts the structures from the dataset and the testing phase is used to calculate how the appropriate model performs for prediction. The dataset is divided into two sections. These are the training and testing phase.

K fold cross-validation portrays that a single fold is utilized for testing and $k - 1$ folds are being used training circularly. Cross-validation is used for escaping of overfitting.

B. Machine Intelligence Libraries:

LGBM classifier: Light Gradient Boosted Machine is a real and efficient way of gradient boosting algorithm. LightGBM extends the gradient boosting algorithm by adding a type of reflex feature selection as well as concentrating on boosting samples with bigger gradients. This can result in a dramatic speedup of training and improved predictive presentation. Light GBM grows tree vertically while other algorithm produces trees horizontally meaning that Light GBM grows tree leaf-wise while the other algorithm grows level-wise. It will select the leaf with max delta loss to grow. When growing the same leaf, Leaf-wise algorithm can reduce more loss than a level-wise algorithm.

Random Forest Classifier: It is a supervised learning growth that consists of many individual decision trees that operate. Each individual tree in the random forest spitting out class prediction and the class with the most votes become our model's prediction. One big advantage of random forest is that it can be used for both classification and regression problems, which form many current machine

learning systems.

Hyperparameter optimization: Hyperparameters have dissimilar parameter values that are used to control the learning process and have a substantial effect on the presentation of machine learning models. An example of hyperparameters in the Random Forest algorithm is the number of estimators (`n_estimators`), maximum depth (`max_depth`), and principle. These factors are tunable and can have a direct impact on how well a model train. So, then hyperparameter optimization is the whole process of finding the right mix of hyperparameter values to achieve the highest performance on the data in a reasonable amount of time.

Feature Engineering:

Feature engineering is about making new input features from your existing ones. In general, you can presume of data cleaning as a process of subtraction and feature engineering as an extra process. This is often one of the most valued tasks a data scientist can do to raise model performance, for several reasons:

1. You can separate and highlight key information, which improves your algorithms "focus" on what's important.
2. You can bring into your own domain expertise.
3. Most important thing is, once you understand the "vocabulary" of feature engineering, you can bring in someone else's domain expertise!

Node-Red:

Node-RED is a visual tool for connecting the Internet of Things. It used to connect devices, data and API's. It can also be used for other kinds of applications to quickly assemble the streams of services. Node-RED is accessible as open source and has been applied by the IBM Emerging Technologies for the association. Node-RED provides a browser-based flow editor that makes it easy to wire together flows using the wide spectrum of nodes in the palette. Flows can be then deployed to the runtime in one single-click. Whilst Node-Red is built on Node.js, JavaScript functions can be prepared within the editor using a rich text editor. A built-in collection that enables you to save useful functions, templates or flows for re-use.

C. Method used:

IBM Watson is an emerging and user-friendly tool for solving issues related to healthcare or any scope of human intent. It gives a learner free space to experiment using various artificial problem and classifiers which help to evaluate the accuracy.

Here a cloud account is used to create a service that allocates resource for conducting the experiment. Further it allows to upload the csv file which is loaded to generate the algorithm. Here the rule of training and testing must be mentioned also this is the phase which determines which classifier as well as hyperparameters to be used for giving various accuracies an algorithm can generate depending on the trails and the pipelines used.

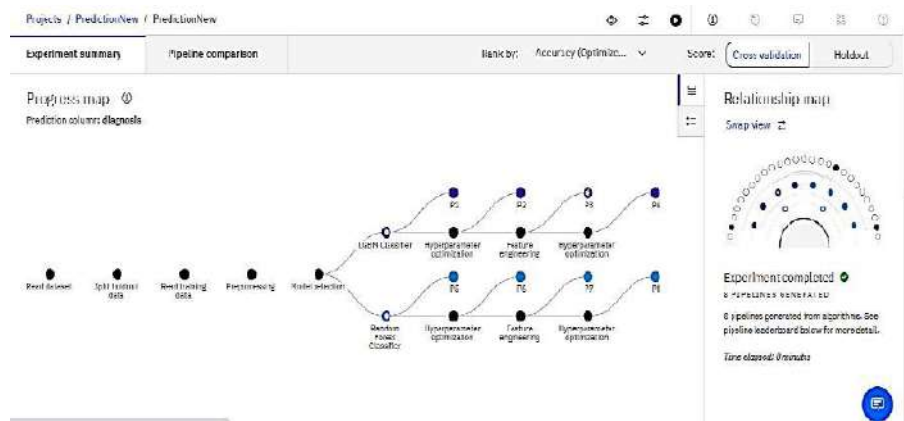


Figure2: Pipeline generation

Rank	Name	Algorithm	Accuracy (Optimized)	Enhancements	Runtime
1	Pipeline 3	LSTM Classifier	0.932	HPO-1, FE	00:00:57
2	Pipeline 4	LSTM Classifier	0.932	HPO-1, FE, HPO-2	00:01:12
3	Pipeline 8	Random Forest Classifier	0.930	HPO-2, FE, HPO-2	00:00:41
4	Pipeline 2	LSTM Classifier	0.928	None	00:00:74
5	Pipeline 6	Random Forest Classifier	0.926	HPO-1	00:00:20
6	Pipeline 7	Random Forest Classifier	0.926	HPO-1, FE	00:00:11
7	Pipeline 1	LSTM Classifier	0.912	None	00:00:01
8	Pipeline 5	Random Forest Classifier	0.912	None	00:00:05

Figure 3: Accuracy Summary

Every pipeline is associated with an accuracy as well as the enhancements done from one phase to another. It also delivers the time required to build the individual phase and complete algorithm. As this is concerned with algorithm further, we look for creating a interface which accepts value from the user for which NodeRed tool is utilized which creates a visual flow from data acceptance, preprocessing, optimization and output. It makes use of the javascript API key which is generated towards the allocation of the resources.

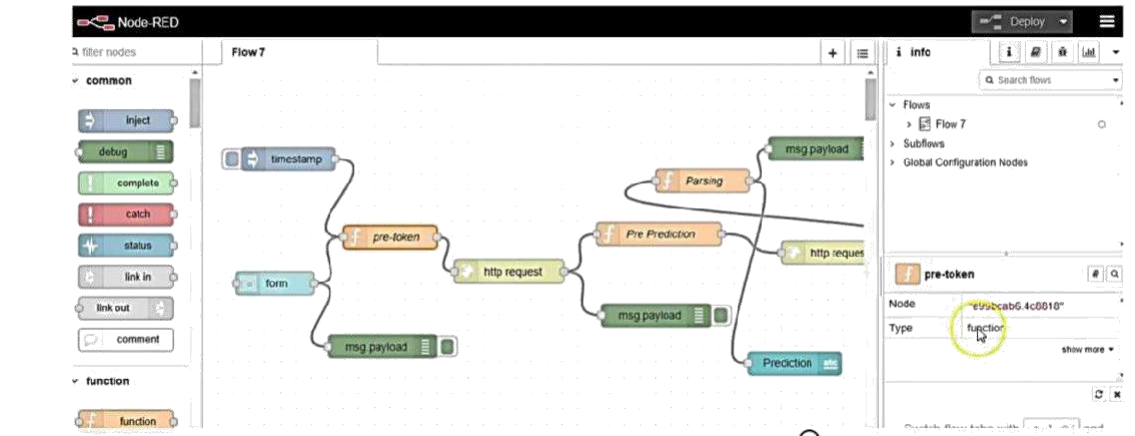


Figure 4: Node-RED interface

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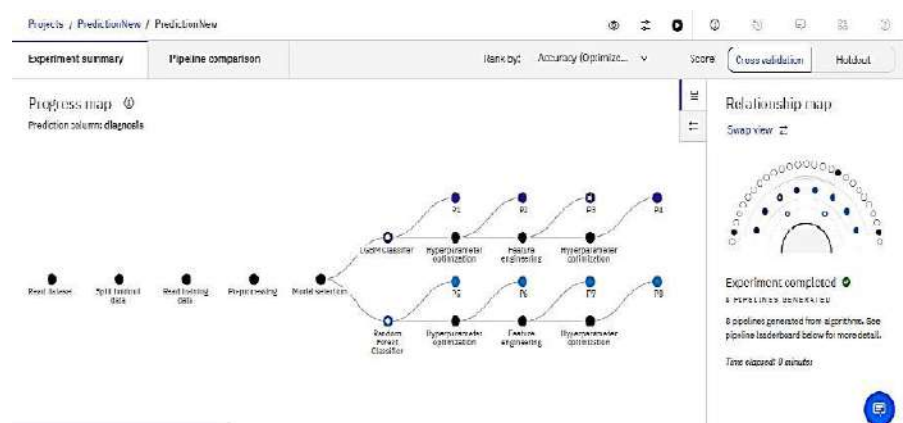


Figure2: Pipeline generation

Experiment summary		Pipeline comparison		Rank by: Accuracy (Optimized)	Score: Once validation	Holdout
Rank	Name	Algorithm	Accuracy (Optimized)	Enhancements	Build time	
★ 1	Pipeline 3	LRM Classifier	0.932	HPO-1 (T)	00:00:57	
2	Pipeline 4	LGJM Classifier	0.932	HPO-1 FE HPO-2	00:01:21	Save as
3	Pipeline 8	RandomForest Classifier	0.930	HPO-1 FE HPO-2	00:00:41	
4	Pipeline 7	LRM Classifier	0.928	HPO-1	00:00:24	
5	Pipeline 6	Random Forest Classifier	0.926	HPO-1	00:00:20	
6	Pipeline 7	Random Forest Classifier	0.926	HPO-1 FE	00:01:11	
7	Pipeline 1	LGJM Classifier	0.912	None	00:00:01	
8	Pipeline 5	Random Forest Classifier	0.912	None	00:00:05	

Figure 3: Accuracy Summary

Every pipeline is associated with an accuracy as well as the enhancements done from one phase to another. It also delivers the time required to build the individual phase and complete algorithm. As this is concerned with algorithm further, we look for creating an interface which accepts value from the user for which NodeRed tool is utilized which creates a visual flow from data acceptance, preprocessing, optimization and output. It makes use of the javascript API key which is generated towards the allocation of the resources.

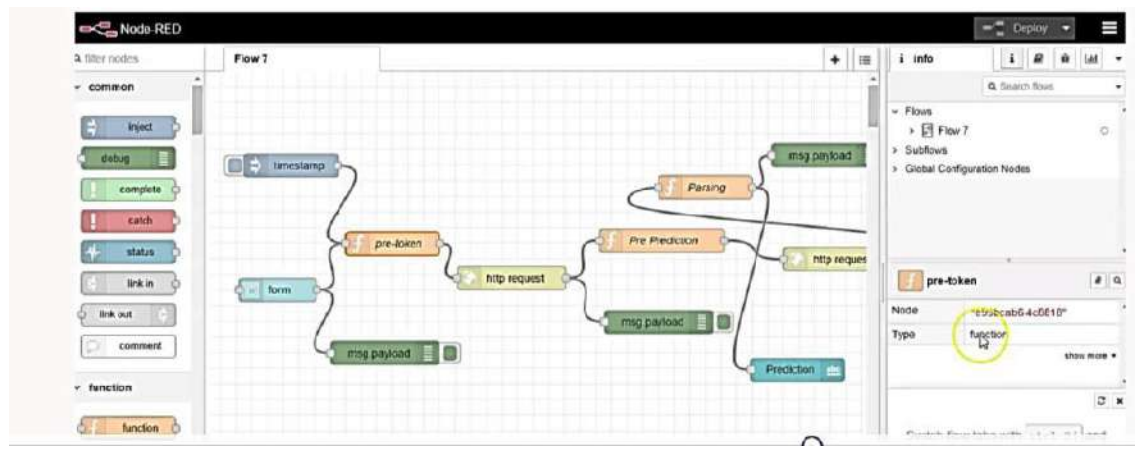


Figure 4: Node-RED interface

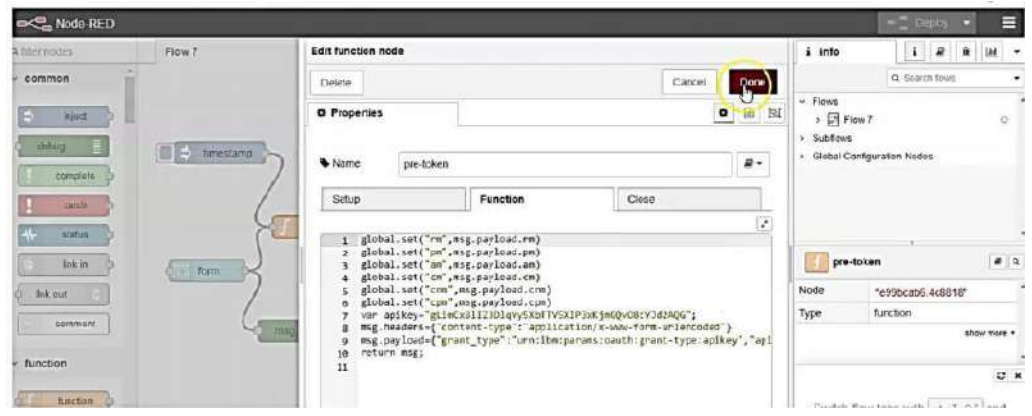


Figure 5: API Key making this a unique project.

3. RESULTS AND DISCUSSION

Breast cancer is an issue that affects many women worldwide, which has generated great interest in the scientific field to take advantage of technological developments and thus create intelligent tools or methods that allow diagnosis or prevention of successful form of said disease. Data mining is a discipline in constant development, through this many solutions must be generated for the analysis of different diseases that society suffers worldwide.

Considering the results, the levels of accuracy achieved are not the best since random forest only reached a 92.6% level of accuracy, followed LGBM with 93.2%,

The algorithm has the capability to predict the accuracy of 93%. It is also capable to show the prediction of benign and malignant cases.

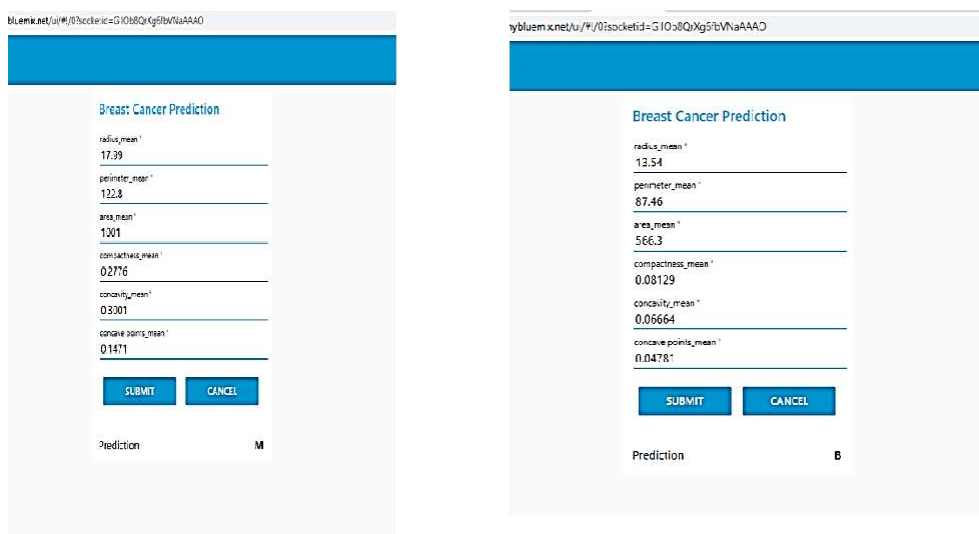


Figure 6: Results for both cases of cancer

4. CONCLUSION

Machine learning is a simple and effective technique to forecast the type of tumor a patient is suffering from, especially as the number of women diagnosed with breast cancer continues to rise. We need to forecast which cancer class a patient will be assigned by extracting hidden information from various parameters that may be used to improve overall performance using the best available technologies.

5. ACKNOWLEDGMENT

We would like to express our gratitude to IBM for providing IBM cloud and giving us the opportunity to work on it.

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Virtual Laboratory – A Learning Enhancement Experience through NLP Application Design

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ABSTRACT

One challenge for teaching fraternity in current pandemic situation is to provide online virtual laboratory experimental education for various Information Technology and computer science courses, along with online lectures to students with a view that they feel like they are sitting in the physical laboratory and understanding and performing experiments, though it is virtual. This paper shares our experience of using Natural language Processing (NLP) virtual Lab for learning morphology, in which we have used various multimedia software which are open source.

Keywords: *virtual, laboratory, NLP, Morphology, open source*

1. INTRODUCTION

A virtual laboratory is a computer-based activity where students interact with the simulator. It can have no physical reality behind it at all. Morphology is a branch of linguistics to convey how words are formed from morphemes. The dictionary meaning of morphology is - the form of words, studied as a branch of linguistics

This paper aims to provide the complete design of Morphology – one of the NLP applications and provides the idea to students about what morphology is and how it is applicable to different languages. They can practice it with different root words given in the dropdown menu and apply their morphological ideas to the table. Upon getting the correct selection of ‘matra’, they can get the correct answer. Else, individual wrong mark in red will be displayed against that row of the table.

2. LITERATURE REVIEW

Virtual laboratory is also referred as Computer Based Simulation, Virtual Learning System, Virtual Lab System or just Simulations. Under the National Mission on Education through ICT the Ministry of Human Resource Development has initiated the Virtual Labs project. These labs will now be used by the students all over the country. In this paper, we are describing the steps for NLP Morphology Virtual laboratory by taking reference of existing virtual labs.

The traditional laboratories are easy to use and may sometimes be less expensive, but the virtual laboratories provide many advantages than the traditional labs. The virtual labs if properly designed taking into consideration the online multimedia instructional design principles can enhance the skills in the students. Due to the availability of virtual laboratories at anytime and anywhere, can give the students an opportunity to explore the experiments and reflect on the results obtained.

NLP is a field of Computational linguistics and is associated with human to convert information from computer to natural language using NLG (Natural Language Generator) and to convert reverse way using NLU (Natural Language Understanding). There are many Indian languages but mostly we consider Hindi language as an Indian language, when we compare it with English.

3. IMPLEMENTATION OF NLP MORPHOLOGY APPLICATION:

The virtual laboratory is designed using html, CSS and Java script, which are open source. This virtual laboratory is made user friendly, in which students can interact while operating the simulator of morphology. We have included total eight steps in this virtual laboratory, namely Broad Goal, Learning Objectives, Theory, Pre-Test, Procedure, Simulator, Post Test and References.

Broad Goal: The Broad Goal of the experiment is to understand the morphology of a word by these of Add-Delete table.

Learning Objectives: Students will be able to select the root word, delete the tense from the word to find the stem of the word, add the appropriate tense to make it the correct word asked as either singular or plural with direct (nominative like - he, they) case or singular or plural with oblique (like him, them) case, check whether the selected tense is correct as per the asked in the question, get the correct answer if couldn't complete it correctly

Theory of Morphology: Morphemes are considered as smallest meaningful units of language. These morphemes can either be a root word (play) or affix (-ed). Combination of these morphemes is called morphological process. So, word "played" is made out of 2 morphemes "play" and "-ed". Thus, finding all parts of a word (morphemes) and thus describing properties of a word is called

"Morphological Analysis". For example, "played" has information verb "play" and "past tense", so given word is past tense form of verb "play". Another example of Morphology is Motivation having various forms - motiv, motivate, motivation.

Procedure: There are only three steps to be followed by the user to operate the simulator. Users should select a word root, Fill the add-delete table and submit.

If students submit the correct pre or post word as asked in the question to convert the root word into singular or plural, past or present tense like un, s, es, ed, ing etc then the right mark in green displays and upon selecting the wrong pre or post word, a wrong mark appears in red color. If the answer is incorrect, then student has to again start from the step 1.

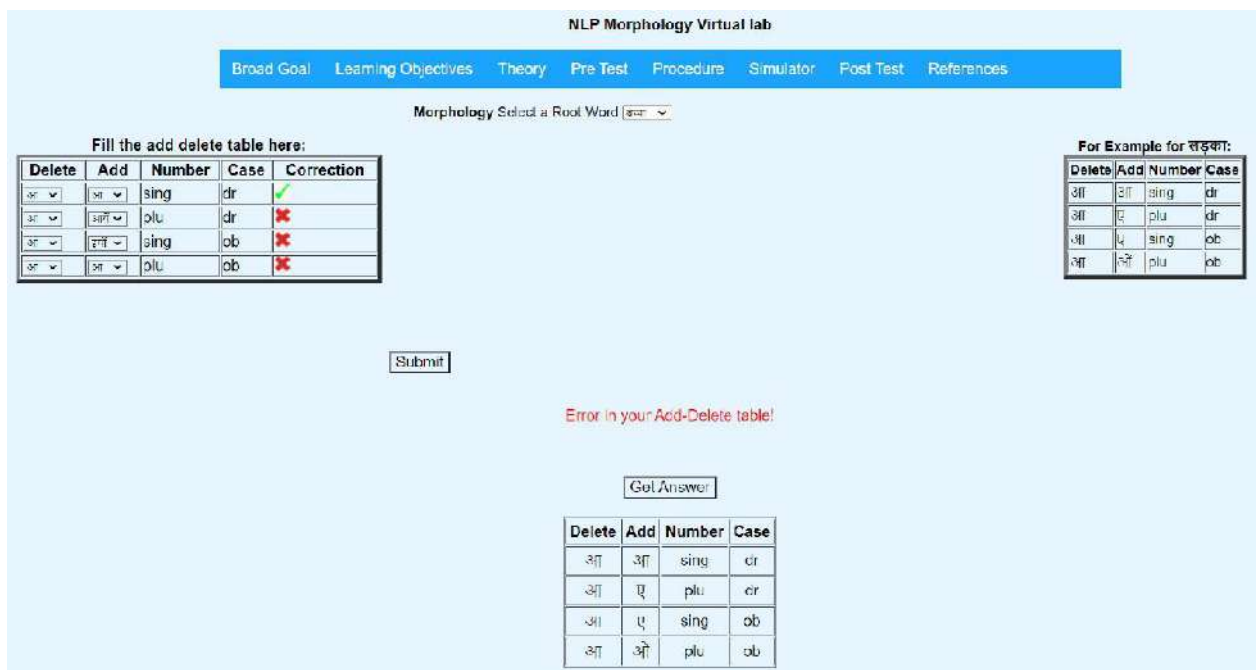


Figure 1(a): Overall design of virtual lab along with simulator with incorrect selection



Figure 1(b): Overall design of virtual lab along with simulator with correct selection

Simulator: It is the main task of designing the virtual lab. The Simulator diagram is shown below as per our design. Figure 1(a) shows the Overall design of virtual lab along with simulator, with incorrect selection done by students while learning morphology whereas figure 1(b) shows the Overall design of virtual lab along with simulator, with correction selection done by students while learning morphology. If a student is clueless about what to select then he/she can click on the Get Answer button to get the correct answer and after studying it, he/she can apply his/her own answer again to simulator.

As per the step 1, user or student has to select the root word. Then select the delete and add 'Matra' as per the asked in the question. Sing stands for singular, plu stands for plural. Ob stands for oblique case and dr stands for direct case. After selection done, user requires to click on submit button.

Upon selecting the correct answers, It shows all right marks in green in the table and displays the message 'correct answer!' in green.

There are pre-test and post-test designed to check whether student has understood it correctly or not. Students can appear any number of times to that test, basically because it is for improving their understanding and not for doing any kind of the evaluation. The pretest and post test are displayed in the figure 2(a) and 2(b) below:

NLP Morphology Virtual lab

Broad Goal Learning Objectives Theory Pre Test Procedure Simulator Post Test References

Answer the following questions after reading the Theory

Question 1.
 ----- should be deleted from the root word लड़का and ----- should be added to it to change it to singular and direct case.

आ and आ
 आ and ए
 आ and ए
 आ and औ

Question 2.
 ----- should be deleted from the root word लड़का and ----- should be added to it to change it to singular and oblique case.

आ and आ
 आ and ए
 आ and ए
 आ and औ

Grade Me Clear

Number of score out of 2 = Score in percentage =

Figure 2(a): Pretest

Broad Goal Learning Objectives Theory Pre Test Procedure Simulator Post Test References

Answer the following questions after using the Simulator

Question 1.
 ----- should be deleted from the root word लड़का and ----- should be added to it to change it to plural and direct case.

आ and आ
 आ and ए
 ए and आ
 आ and ओ

Question 2.
 Finding all parts of a word and thus describing properties of a word is called _____ Analysis.

Morphological
 word
 structure
 root

Grade Me Clear

Number of score out of 2 = Score in percentage =

Figure 2(b): Post test

CSS is designed to keep symmetry amongst all pages in terms of background, font size, borders etc. Java script is used to fetch the root word and also to fetch all words from the table and verify it whether the answer selected by student is correct or not. Accordingly, it displays the message. The submit button in html file calls the function in Java script to verify the answer.

4. FUTURE SCOPE:

This paper uses limited words for only one language. So, further enhancement can be done for all words of the language. But it seems difficult to do so. Other enhancement can be done that other Indian languages can also be added. For that one more dropdown menu can be kept in the beginning of the simulator about selection of languages. As per the language selected, some more words can be added for that language to study morphology. Further, in this paper we have worked mainly for noun but in future, more work can be carried out on verb and adjective also.

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AI BASED VIRTUAL TRAVEL AGENT SYSTEM

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ABSTRACT:

Nowadays, people want a vacation to explore more about world and different culture which they are not aware of. People tends to explore more wonder touring places without any help of any human intervention. They want a virtual assistant which can assist about the tours. AI-powered chatbots are motivated by the need of traditional application to provide a chat facility where a bot is required to be able to chat with users and solve queries. Where live agent can handle only two or three operations at a time, chatbots can operate with an upper limit which really scales up the operations. Having a chatbot clearly improves the response rate compared to human support team. Through the study of various research paper and online course we have built an application called “AI Based Virtual Travel Agent System”. This application will interact with users through chatbot and provides output. Application also uses recommendation to provide accurate prediction according to user’s preference.

INTRODUCTION:

Artificial Intelligence in machines is a very challenging discussion. It involves the creation of machines which can simulate intelligence. This paper discusses some of the current trends and practices in AI and subsequently offers alternative theory for improvement in some of today’s prominent and widely accepted postulates. The paper shows how current approach towards AI is not adequate and offers a new theory that discuss machines intelligence, throwing light to the future of intelligent systems The research on recommender system gained importance after the emergence of collaborative filtering algorithm. It uses information from many sources to make prediction and to suggest an asset for the user. Filtering mechanisms play an important role in the recommendation process. The most used filtering techniques are collaborative filtering, content-based filtering, knowledge-based filtering.

The main aim of using personalization techniques is to generate customized recommendation according to the user preference and interest. The recommendation system as an objective is to filter unwanted information and to provide a specific result for the user.

COLLABORATIVE FILTERING:

K – Nearest neighbour One of the most common forms of collaborative filtering is the k-nearest neighbour approach. There are two main variants of nearest neighbour for collaborating filtering, user-based and item-based.

Both methods generally assume that no user or item features are provided, so here x and y are simply respective user and item indices. When the number of users is far fewer than the number of items, it has been found that the user-based approaches usually provide better prediction as well as being more efficient in computation.

This hold for the evaluation in this paper so we focus on user based approach. Given a user x and an item y. Let $N(x:y)$ be the set of N user nearest neighbour of x that have also given a rating for y, where “nearest” is determined by the cosine similarity $Sim_{x,z}$ between two vectors of rating for user x and y.

The predicted rating $\bar{R}_{x,y} \in [0,1]$ that the user x gives item y can then be calculated as:

$$\hat{R}_{x,y} = \frac{\sum_{z \in N(x:y)} Sim_{x,z} R_{z,y}}{\sum_{z \in N(x:y)} Sim_{x,z}}$$

Figure 1: Collaborative Filtering

SEQUENCE PREDICTION

Given a sequence of items that the user interacted with in his previous search history. What will he/she interact in his next visit? The idea behind this type of problem is straightforward, learning the evolution of user affinity’s change in the timeline from the tour selection sequence. The good news is that it’s very similar to NLP tasks, and we can apply NLP techniques like embedding, attentions into 19 the models. Basically, the embedding can represent a user or item information in the model, and the attention can decide what in the previous sequence should play a more important role in the future sequence.

One naive approach is to use time-decay on the product embedding to differentiate the importance of more recent events and more previous events. However, the RNN (LSTM /GRU) based models could do better.

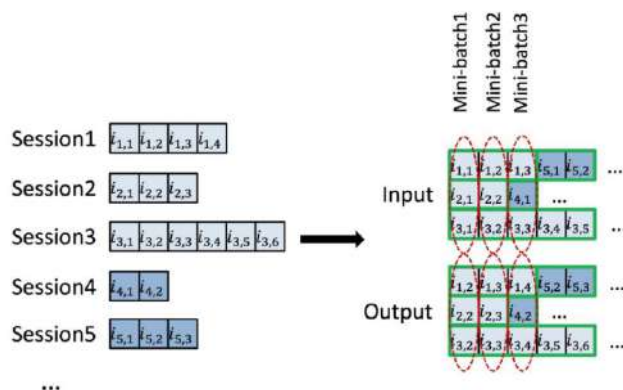


Figure 2: Problem Definition

TENSOR FLOW:

Tensor Flow is a machine learning system that operates at large scale and in heterogeneous environments. Tensor-Flow uses dataflow graphs to represent computation, shared state, and the operations that mutate that state. It maps the nodes of a dataflow graph across many machines in a cluster, and within a machine across multiple computational devices, including multicore CPUs, general-purpose GPUs, and custom designed ASICs known as Tensor Processing Units (TPUs). Tensor Flow enables developers to experiment with novel optimizations and training algorithms. Tensor Flow in production, we have released its an open-source project, and it has become widely used for machine learning research.

Tensor Flow execution model

Tensor Flow uses a single dataflow graph to represent all computation and state in a machine learning algorithm, including the individual mathematical operations, the parameters and their update rules, and the input pre-processing.

Dataflow Tensor Flow differs from batch dataflow systems in two respects:

The model supports multiple concurrent executions on overlapping subgraphs of the overall graph. Individual vertices may have mutable state that can be shared between different executions of the graph

Operations:

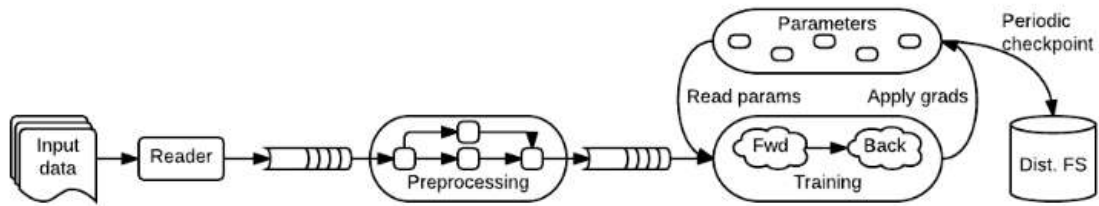


Figure 3: A schematic Tensor Flow dataflow graph for a training pipeline contains subgraphs for reading input data, reprocessing, training, and check pointing state

An operation takes $m \geq 0$ tensors as input and produces $n \geq 0$ tensors as output. An operation has a named “type” (such as Const, MatMul, or Assign) and may have zero or more compile-time attributes that determine its behaviour. An operation can be generic and variadic at compile-time: its attributes determine both the expected types and arity of its inputs and outputs.

For example, the simplest operation, Const has no inputs and a single output. Const has an attribute T that determines the type of its output, and an attribute Value that determines the value that it produces. AddN is variadic: it has a type of attribute T, and an integer attribute N that defines how many inputs (of type T) it accepts.

SYNCHRONOUS REPLICA COORDINATION:

Though we designed Tensor Flow for asynchronous training, we have begun experimenting with synchronous methods. The Tensor Flow graph enables users to change how parameters are read and written when training a model, and we implement three alternatives.

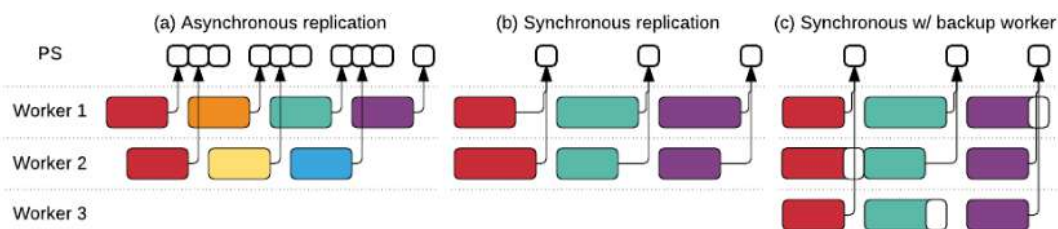


Figure 4: Three parameter synchronization schemes for a single parameter in data-parallel training: (a) asynchronous, (b) synchronous, and (c) synchronous with backup workers.

In the **asynchronous** case, each worker reads the current value when the step begins and applies its gradient to the different current value at the end: this ensures high utilization, but the individual steps use stale information, making each step less effective.

The **synchronous** cases use queues to coordinate execution: a blocking queue acts as a barrier to ensure that all workers read the same parameter version, and a second queue accumulates multiple gradient updates to apply them atomically. The simple synchronous version accumulates updates from all workers before applying them, but slow workers limit overall throughput.

In the **Synchronous with backup workers**, we implement backup Map Reduce backup tasks. Whereas Map Reduce starts backup tasks reactively, after detecting a straggler our backup workers run proactively, and the aggregation takes the first m of n updates produced.

MACHINE LEARNING ALGORITHMS

Machine learning (ML) is a type of artificial intelligence (AI) that allows software applications to become more accurate at predicting outcomes without being explicitly programmed to do so. Machine learning algorithms use historical data as input to predict new output values. Recommendation engine are a common use case for machine learning.

1) Supervised learning: In this type of machine learning, data scientists supply algorithms with labelled training data and define the variables they want the algorithm to assess for correlations. Both the input and the output of the algorithm is specified.

2) Unsupervised learning: This type of machine learning involves algorithms that train on unlabelled data. The algorithm scans through data sets looking for any meaningful connection. The data that algorithms train on as well as the predictions or recommendations they output are predetermined.

3) Semi-supervised learning: This approach to machine learning involves a mix of the two preceding types. Data scientists may feed an algorithm mostly labelled training data, but the model is free to explore the data on its own and develop its own understanding of the data set.

4) Reinforcement learning: Data scientists typically use reinforcement learning to teach a machine to complete a multi-step process for which there are clearly defined rules. Data scientists program an algorithm to complete a task and give it positive or negative cues as it works out how to complete a task. But for the most part, the algorithm decides on its own what steps to take along the way.

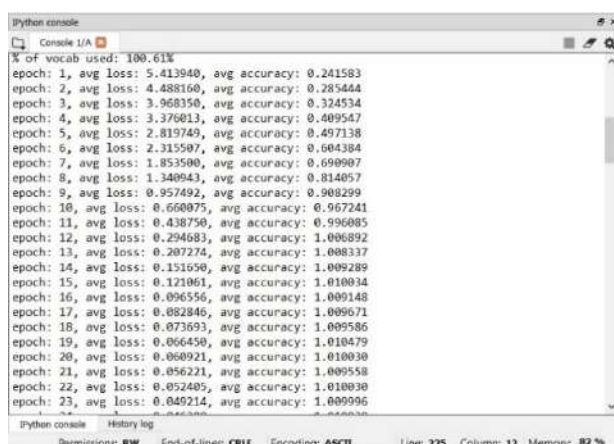
Seq2seq MODEL:

This strategy selects the most probable word (**i.e. argmax**) from the model's vocabulary at each decoding time-step as the candidate to output sequence.

The problem with this approach is that once the output is chosen at any time-step t , we don't get the flexibility to go back and change our choice. It is seen in practice that greedy decoding strategy is prone to have grammatical errors in the generated text. It will result in choosing the best at any time-step t but that might not necessarily give the best when considering the full sentence to be grammatically correct and sensible.

RESULT:

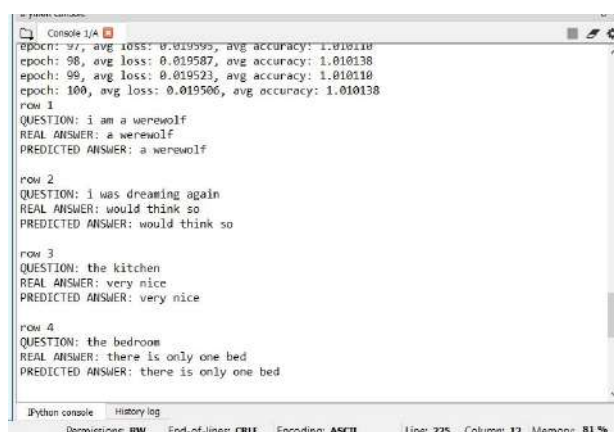
Based on basic-brinn-seq2seq-greedy model and the data consist of cornell movies-dilaogs corpus.



```

Python console
Console I/A
% of vocab used: 100.61%
epoch: 1, avg loss: 5.413940, avg accuracy: 0.241583
epoch: 2, avg loss: 4.488160, avg accuracy: 0.285444
epoch: 3, avg loss: 3.968350, avg accuracy: 0.324534
epoch: 4, avg loss: 3.376813, avg accuracy: 0.409547
epoch: 5, avg loss: 2.819749, avg accuracy: 0.497138
epoch: 6, avg loss: 2.315507, avg accuracy: 0.604384
epoch: 7, avg loss: 1.853500, avg accuracy: 0.699907
epoch: 8, avg loss: 1.340943, avg accuracy: 0.814057
epoch: 9, avg loss: 0.957492, avg accuracy: 0.909299
epoch: 10, avg loss: 0.668075, avg accuracy: 0.967241
epoch: 11, avg loss: 0.438750, avg accuracy: 0.996085
epoch: 12, avg loss: 0.294683, avg accuracy: 1.006892
epoch: 13, avg loss: 0.207274, avg accuracy: 1.008337
epoch: 14, avg loss: 0.151650, avg accuracy: 1.009289
epoch: 15, avg loss: 0.121061, avg accuracy: 1.010034
epoch: 16, avg loss: 0.096556, avg accuracy: 1.009148
epoch: 17, avg loss: 0.082846, avg accuracy: 1.009671
epoch: 18, avg loss: 0.073693, avg accuracy: 1.009586
epoch: 19, avg loss: 0.066450, avg accuracy: 1.010479
epoch: 20, avg loss: 0.060921, avg accuracy: 1.010030
epoch: 21, avg loss: 0.056221, avg accuracy: 1.009558
epoch: 22, avg loss: 0.052405, avg accuracy: 1.010030
epoch: 23, avg loss: 0.045214, avg accuracy: 1.009996
Python console History log
Permissions: RW End-of-lines: CRLF Encoding: ASCII Line: 225 Column: 12 Memory: 82 %

```



```

Python console
Console I/A
epoch: 97, avg loss: 0.019999, avg accuracy: 1.010118
epoch: 98, avg loss: 0.019587, avg accuracy: 1.010138
epoch: 99, avg loss: 0.019523, avg accuracy: 1.010118
epoch: 100, avg loss: 0.019506, avg accuracy: 1.010138
row 1
QUESTION: i am a werewolf
REAL ANSWER: a werewolf
PREDICTED ANSWER: a werewolf

row 2
QUESTION: i was dreaming again
REAL ANSWER: would think so
PREDICTED ANSWER: would think so

row 3
QUESTION: the kitchen
REAL ANSWER: very nice
PREDICTED ANSWER: very nice

row 4
QUESTION: the bedroom
REAL ANSWER: there is only one bed
PREDICTED ANSWER: there is only one bed

Python console History log
Permissions: RW End-of-lines: CRLF Encoding: ASCII Line: 225 Column: 12 Memory: 81 %

```

Figure 5: Real and Predicted Output

We are using the Cornell Movie-dialogs corpus as our dataset, which contains more than 220k conversational exchanges between more than 10k pairs of movie characters. “+++\$\$+++” is being used as a field separator in all the files within the corpus dataset.

`movie_conversations.txt` has the following format: ID of the first character, ID of the second character, ID of the movie that this conversation occurred, and a list of line IDs. The character and movie information can be found in `movie_characters_metadata.txt` and `movie_titles_metadata.txt` respectively.

Encoder

The Encoder consists of:

Input Embedding

Positional Encoding

N of encoder layers

The input is put through an embedding which is summed with the positional encoding. The output of this summation is the input to the encoder layers. The output of the encoder is the input to the decoder.

Decoder

The Decoder consists of:

Output Embedding

Positional Encoding

N decoder layers

The target is put through an embedding which is summed with the positional encoding. The output of this summation is the input to the decoder layers. The output of the decoder is the input to the final linear layer.

Seq2seq

Seq2seq consists of the encoder, decoder and a final linear layer. The output of the decoder is the input to the linear layer and its output is returned.

CONCLUSION:

In Summary, “AI Based Virtual Travel Agent System” is an application-based project built on Flutter. The project uses Firebase Authentication Database for data security and integrity. Project contain two main modules named Chatbot and Recommendation System respectively. Chatbot is integrated with IBM Watson Assistant for solving the user queries related to tour and services. The aim of using personalization techniques is to generate customized recommendation according to the user preference and interest. The main goal of this project is to analyse users’ action for accurate result and purpose is to achieve chatbot experiences live up to expectations.

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PORTFOLIO MANAGEMENT USING TIME SERIES ANALYSIS

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ABSTRACT:

In India, only about 4% population pursue stock market as a source of income, be it passive or main source. Consequently, about 55% population of USA invest in their market. The main reason behind this is that US citizens follow a systematic and algorithm-based approach towards investing and gain profits. However, in India, most people invest in stock market blindly as if playing a game of cards at a casino. Stock market is a lucrative yet volatile market. Investing in it requires a lot of technical analysis and research to obtain maximum profits as Abstract Predicting stock market prices is one of the most complex task that traditionally involves extensive human- computer interaction.

Indian investors lack a basic knowledge about the way stock market function. Despite extensive information on fundamentally strong stocks and companies, investors are reluctant to invest their hard-earned money into these companies. Other investors believe that the stock market is an avenue for turning “quick profits.” As a result, they lack the necessary patience and end up buying – or even selling – stocks in quick time. When it comes to matter of investing money, Indians generally don’t have the appetite for taking risks. Hence, they invest heavily in fixed deposits as well as gold which are a safe option. To tackle this orthodox mind set, we have come up with a systematic and pragmatic analysis of stocks. Machine learning has the potential to ease the whole process by analysing large chunks of data, spotting significant patterns, and generating a single output that navigates traders towards a particular decision based on predicted asset prices.

Our implementation will help you decide which stocks to involve in your portfolio and will provide more accurate results when compared to existing stock price prediction algorithms.

Keywords: Machine Learning, Time series analysis, pragmatic analysis etc.

INTRODUCTION:

The stock market is a market that enables the seamless exchange of buying and selling of company stocks. Every Stock Exchange has its own Stock Index value. The index is the average value that is calculated by combining several stocks. This helps in representing the entire stock market and predicting the market's movement over time. The stock market can have a huge impact on people and the country's economy as a whole. Talking about Stock market prediction it has always caught the attention of many analysts and researchers. Popular theories suggest that stock markets are essentially a random walk, and it is a fool's game to try and predict them. Predicting stock prices is a challenging problem in itself because of the number of variables which are involved. In the short term, the market behaves like a voting machine but in the longer term, it acts like a weighing machine and hence there is scope for predicting the market movements for a longer timeframe.

Very less percentage of population in India pursue stock market as a source of income, be it passive or main source. However, in India, most people invest in stock market blindly as if playing a game of cards at a casino. Stock market is a lucrative yet volatile market. Investing in it requires a lot of technical analysis and research to obtain maximum profits as Abstract Predicting stock market prices is one of the most complex task that traditionally involves extensive human- computer interaction. Due to the correlated nature of stock prices, conventional batch processing methods cannot be utilized efficiently for stock market analysis.

Indian investors lack a basic knowledge about the way stock market function. Despite extensive information on fundamentally strong stocks and companies, investors are reluctant to invest their hard-earned money into these companies. Other investors believe that the stock market is an avenue for turning "quick profits." As a result, they lack the necessary patience and end up buying – or even selling – stocks in quick time. When it comes to matter of investing money, Indians generally don't have the appetite for taking risks. Hence, they invest heavily in fixed deposits as well as gold which are a safe option. To tackle this orthodox mind set, we have come up with a systematic and pragmatic analysis of stocks. This will also help our economy grow in a certain way if more and more investors will invest .

Stock and financial markets tend to be unpredictable and even illogical. Due to these characteristics, financial data should be necessarily possessing a rather turbulent structure

which often makes it hard to find reliable patterns. Modelling turbulent structures requires machine learning algorithms capable of finding hidden structures within the data and predict how they will affect them in the future. The most efficient methodology to achieve this is Machine Learning and Deep Learning. Deep learning can deal with complex structures easily and extract relationships that further increase the accuracy of the generated results.

Machine learning has the potential to ease the whole process by analysing large chunks of data, spotting significant patterns, and generating a single output that navigates traders towards a particular decision based on predicted asset prices. Our implementation will help you decide which stocks to involve in your portfolio and will provide more accurate results when compared to existing stock price prediction algorithms. Our project gives an inside view of application of clustering for 5/6 stocks (NSE), which can be used to build a diversified portfolio. Trying out different groupings to diversify portfolio is a computationally expensive task. In this paper, the closing price, time series of the stocks have been considered. Common effect due to market has been discounted using partial correlation, and a correlation based dissimilarity measure has been used for cluster. Machine Learning Algorithms

Machine learning (ML) is a type of artificial intelligence (AI) that allows software applications to become more accurate at predicting outcomes without being explicitly programmed to do so. Machine learning algorithms use historical data as input to predict new output values Recommendation engines are a common use case for machine learning. Other popular uses include fraud detection, spam filtering, malware threat detection, business process automation (BPA) and predictive maintenance. In this project recommendation engine is used to recommend which stocks to buy and add to your portfolio.

Machine learning is important because it gives enterprises a view of trends in customer behaviour and business operational patterns, as well as supports the development of new products. Many of today's leading companies, such as Facebook, Google and Uber, make machine learning a central part of their operations. Machine learning has become a significant competitive differentiator for many companies. Classical machine learning is often categorized by how an algorithm learns to become more accurate in its predictions. There are four basic approaches: supervised learning, unsupervised learning, semi-supervised learning, and reinforcement learning. The type of algorithm data scientists chooses to use depends on what type of data they want to predict.

- 1) Supervised learning: In this type of machine learning, data scientists supply algorithms with labelled training data and define the variables they want the algorithm to assess for correlations. Both the input and the output of the algorithm is specified.
- 2) Unsupervised learning: This type of machine learning involves algorithms that train on unlabelled data. The algorithm scans through data sets looking for any meaningful connection. The data that algorithms train on as well as the predictions or recommendations they output are predetermined.
- 3) Semi-supervised learning: This approach to machine learning involves a mix of the two preceding types. Data scientists may feed an algorithm mostly labelled training data, but the model is free to explore the data on its own and develop its own understanding of the data set.
- 4) Reinforcement learning: Data scientists typically use reinforcement learning to teach a machine to complete a multi-step process for which there are clearly defined rules. Data scientists program an algorithm to complete a task and give it positive or negative cues as it works out how to complete a task. But for the most part, the algorithm decides on its own what steps to take along the way.

TIME SERIES ANALYSIS:

Time-series analysis that is basically the recording of data at a regular interval of time, which could lead to taking a versed decision, crucial for trade and so have multiple applications such as Stock Market and Trends Analysis, Financial Analysis and forecasting, Inventory analysis, Census Analysis, Yield prediction, Sales forecasting, etc. we will the trends of the stocks through a specific period of time and recommend the stocks to look after.

The stock market is among essential components of the economic system since it provides businesses with access to capital by enabling investors to purchase ownership stakes in a company. Commodity prices are not entirely random values and could be treated as a discrete time-series model based on a set of numeric values collected successively at regular time intervals. Forecasting stock exchange data includes the assumption that the information currently available to the public has some predictive relationship to future stock returns. Stock trend forecasting is one of the most complicated things to achieve in the financial market, given the difficulty in the highly intricate world of the stock market. The trends of stock prices are non-linear and non-stationary time-series data. (Reddy, 2018) Time Series analysis consists of techniques for evaluating historical data to extract meaningful statistics and data characteristics; and predict future values by identifying patterns, seasonality, and cyclical

behaviour. Many businesses work on time series data to measure the number of sales, website traffic and number of calls received: such data can then be used for forecasting purposes.

Components of a Time Series:

- Trend: A general direction in which something develops or changes. In the stock market, the uptrend is an overall price increase, while the downtrend is marked by a price decrease.
- Seasonality: Predictable change or pattern that is repeated at a regular time interval. For example, a time-series data that repeats its pattern every 12 months.

REQUIREMENTS:

Functional requirements: -

A functional requirement defines a function of a system or its component, where a function is described as a specification of behavior between outputs and inputs.

They do the following:

- To provide the most advantage to the user from this website.
- The website will be able to access from anywhere using Internet as a medium.
- The system allows the users to predict coronary heart disease.
- The system provides open website for admin.
- Suggest which stocks to add in the portfolio
- Compare the given stocks with the input datasets.

Non-functional requirements: -

A non-functional requirement (NFR) is a requirement that specifies criteria that can be used to judge the operation of a system, rather than specific behaviours.

They do the following: provide you with • The website should provide values used during prediction to the user.

- The website should be responsive and consistent.
- Availability: The user should be online for taking almost advantage of website 24x7.
- Reliability: The user has the control over the order as final authority lies with him.
- Usability and Regularity: The website should be able to suggest properly.

DIAGRAM:

The primary goal of time-series analysis of stocks is to provide investors and traders with information to help them decide which stocks to add in their portfolio.

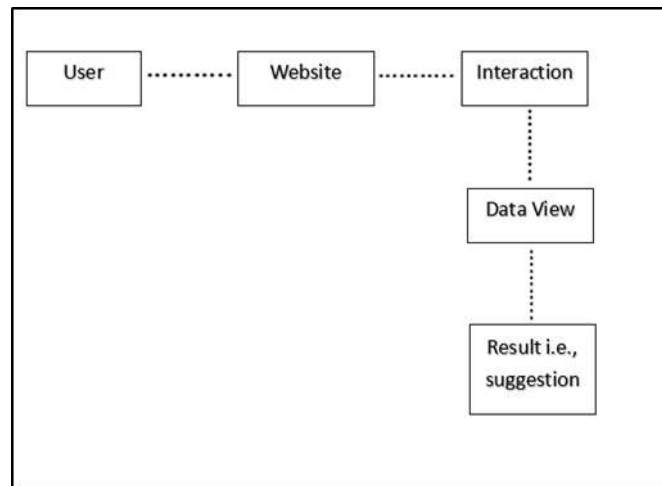


Figure 1: Block diagram

The trend analysis helps the investor decide which stock is the best performing in the past 1 year, has the maximum bull runs or bear drops as well as the overall trading volume for the particular stock. In simple words it will help us to implement, compare and facilitate the use of statistical models. Such models should not be treated as oracles, but rather as an aid in the analysis of movements in stock prices.

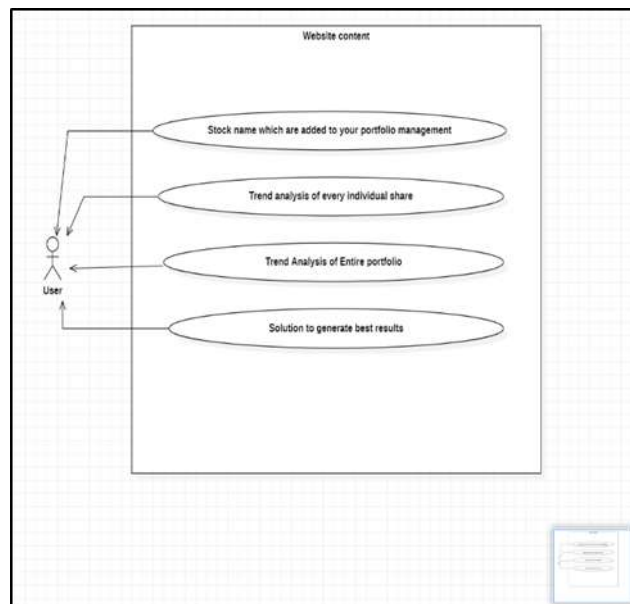


Figure 2: Use case diagram

Result:

Based on Time series algorithms. The dataset consists of stock market data of Reliance Industry.

Date	High	Low	Open	Close	Volume	Adj Close
#####	1356.145	1288.883	1342.376	1303.791	13614473	1298.914
#####	1341.187	1309.586	1317.214	1330.241	12644541	1325.264
#####	1341.088	1295.619	1339.305	1327.12	10201574	1322.156
#####	1345.199	1293.737	1339.503	1298.838	14080540	1293.98
#####	1276.054	1229.446	1258.075	1259.065	15568253	1254.355
#####	1229.347	1084.718	1228.406	1103.688	40698294	1099.559
#####	1167.384	1097.596	1097.596	1142.718	27495503	1138.443
#####	1090.662	1038.853	1074.812	1053.018	25830369	1049.079
#####	1129.295	933.5508	988.6288	1094.921	33826739	1090.825
#####	1069.562	995.563	1050.591	1006.163	17759556	1002.399
#####	1050.047	993.78	1037.416	998.5349	20973312	994.7996
#####	1026.173	951.9762	1015.672	959.4058	20643079	955.8168
#####	957.9199	883.8223	911.4603	909.0828	28337941	905.6821
#####	1025.182	921.2673	930.6781	1008.391	29240849	1004.619
#####	941.0795	867.4277	907.5969	875.7488	18769636	872.4728
#####	960.8917	887.3884	921.2673	934.5415	21106643	931.0456
#####	1140.737	954.2051	954.7499	1072.088	33749620	1068.077
#####	1106.412	1032.562	1085.51	1056.188	21111073	1052.237
#####	1096.902	1036.376	1084.718	1055.594	19225132	1051.645
#####	1064.708	1010.422	1030.829	1020.774	13951078	1016.956

Figure 3: Dataset

Visualize the per day closing price of the stock.

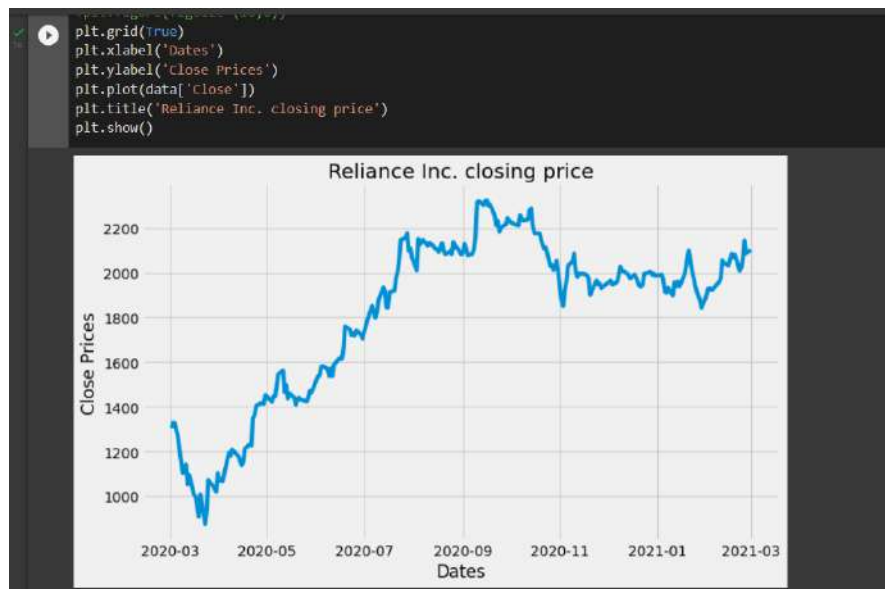


Figure 4: Reliance Inc. Closing price



Figure 5: scatter plot of the closing stock price

Also, a given time series is thought to consist of three systematic components including level, trend, seasonality, and one non-systematic component called noise. These components are defined as follows:

- Level: The average value in the series.
- Trend: The increasing or decreasing value in the series.
- Seasonality: The repeating short-term cycle in the series.
- Noise: The random variation in the series.

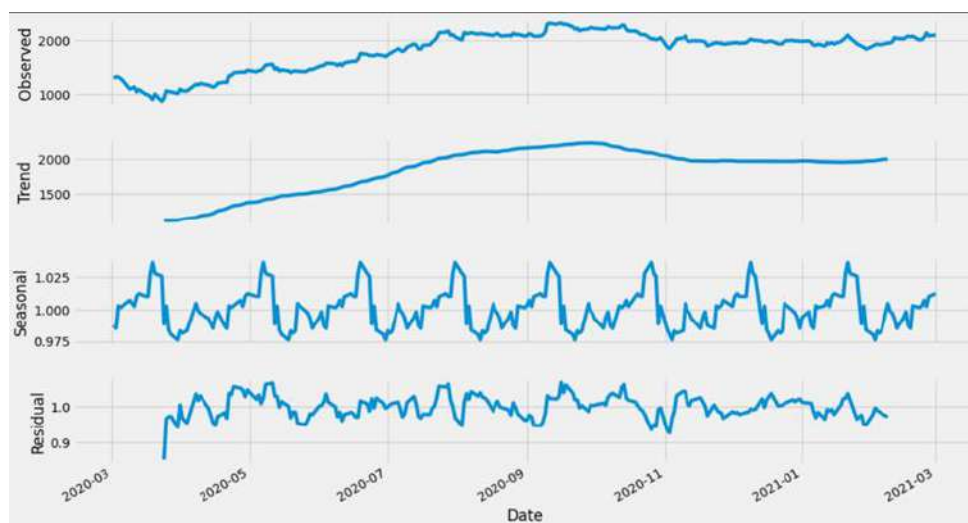


Figure 6: Components

CONCLUSION:

Over the years, trend analysing systems as well as price predicting systems have been extensively used in stock market, but they still pose research and practical challenges including instantaneous volatility, rich data, investors' market sentiment, surprise price variation due to quarterly/annual results' announcement, and unexpected price movement due to strategic financial decisions in subsidiary firms of listed companies. The portfolio management system helps in determining the most efficient trade at a given time which helps the customer to save time and find the best stock to trade for themselves. Large brokerage houses use such systems to make efficient decisions, actively making recommendations to thousands of users simultaneously in real-time. The performances monitored include latency in generating recommendations, trend analysis based on historical price movement, peer comparison, etc. In order to alleviate this problem, different techniques from data science such as Pearson's R value and seaborne pair plot are employed.

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Consumer Buying Behaviour Analysis Using Machine Learning Algorithm

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ABSTRACT

User-generated content, such as reviews, ratings, and comments, can be examined for enterprise use to gain more insights. The examination of this type of customer behaviour is useful in determining the customer's needs and predicting their future intentions toward the service. E-commerce companies can use this cognitive study to track the usage and attitudes associated with their items and develop appropriate marketing strategies to deliver a personalised shopping experience for their customers, thereby boosting their profit. The goal of this study is to use data-driven marketing tools like data visualisation, natural language processing, and machine learning models to better understand an organization's demographics. We also use collaborative filtering, neural networks, and sentiment analysis to create recommender systems.

Keywords: *Consumer Behaviour, Machine Learning, Online shopping, Data Mining, SentimentAnalysis.*

1. INTRODUCTION

In this modern technological age, the utilisation of E-commerce has increased. People prefer shopping online over shopping in stores. In e-commerce, data created by customers in the form of product ratings and reviews can be used to verify the product's validity and publicise it. These ratings and reviews help consumers decide whether or not to buy a particular product. Such content could include good or negative feedback from customers who have used the product before. E-commerce companies can benefit from an accurate analysis of this user-generated information to get insights and better understand their customers' intentions and needs. summarized during a model, which can then be applied to a special data set in which the category assignments are unknown. Machine Learning Algorithms can help us in creating realistic visual representations of this type of consumer behaviour. Such visual representations would aid in a more in-depth analysis of the dataset in order to comprehend and draw firm conclusions about overall consumer behaviour on the e-commerce platform. Natural Language Processing (NLP), a subfield of machine learning, is used to evaluate text and detect favourable or negative customer evaluations. Sentiment Analysis is another name for this. As a result, the data provided in the form of evaluations has the potential to influence consumer behaviour, such as their purchasing intentions. Real-time recommendations based on this intuitive analysis may be produced to create a tailored shopping experience, encouraging them to buy more and so increasing the overall profit of these businesses. The goal of this research is to look into characteristics that aid in perfectly alright organisational directions using large amounts of user-generated content.

2. OBJECTIVE

1. To understand consumer buying behavior in online shopping.

2. To improve the efficiency and analyzing the consumer behavior using Machine Learning algorithm.

3.LITERATURE REVIEW

Xiaohua Hu et. al., (2005) had proposed a data mining approach for retailing bank customer attrition analysis. In this paper, he presented a data mining approach for analysing retailing bank customer attrition.

Mahendra Pratap et. al., (2012) developed a mining of the customer behavior using web usage in e-commerce. The main purpose of this paper is to study the customer's behavior using the Web mining techniques and its application in e-commerce to mine customer behavior

Masud Karim et. al., (2013) had developed algorithms like decision tree and naive bayes for classification and generation of actionable knowledge for direct marketing. The goal of this work is to predict whether a client will subscribe a term deposit UCI data is used to train and test the performance of the algorithms.

Neeraj Sharma et. al., (2013) had proposed data mining as a tool to predict the churn behavior among Indian bank customers. The customer churn is a common measure of lost customers. By minimizing customer churn a company can maximize its profits. Companies have recognized that existing customers are most valuable assets.

R. Roselin et. al., (2014) developed customer behavior analysis for credit card proposers based on data mining techniques. This study investigates the shift of consumers towards the use of plastic money, with emphasis on credit cards.

Maheshwari. K et. al., (2017) had developed predicting customer behavior in online shopping using SVM classifier. In this paper, the dataset is used to analyze and categorize the customer based on their purchase behavior. The classification is performed by SVM algorithm. The inventory data set and sales data set which is available in the internet is used in this work and the performance is evaluated by using the algorithms.

4. METHODOLOGY

A. Sentiment Analysis System Architecture

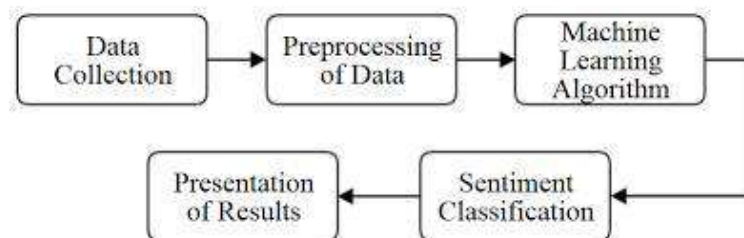


Fig. 1. The workflow of the proposed system

The user-generated content of the customer is pre-processed, the model is trained, and the results are shown on the dashboard. The above model seeks to include two things: sentiment analysis for

determining consumers' intentions and the creation of a recommendation engine based on their previous purchasing behaviour.

B. Data Pre-processing

The dataset contains Amazon product reviews which was taken from Kaggel.com. It is organised by categories such as clothes, home & kitchen, mobiles, and more. For the purposes of our research, we have chosen to work on a certain genre, namely Home & Kitchen products. Unique amazon ID, (rating, reviewer ID, summary, review, and review time are among the dataset's features. To gain a better understanding of the data, it was combined with metadata from various Amazon items, which includes information such as the product's title, description, image URL, sales rank, category, price, brand, and related products. Data was cleaned of any abnormalities and missing or duplicate values were deleted.

C. Data Visualization

All of the variables selected contribute to a better knowledge of customer behaviour through the use of various visualisation approaches. Data visualisation is used to help people understand a dataset in a more intuitive way. Statistical graphs and pie charts can provide a wealth of information. E-commerce companies might utilise these information to verify the popularity of a specific product or track customer behaviour. Some of the data visualizations performed are as shown below :

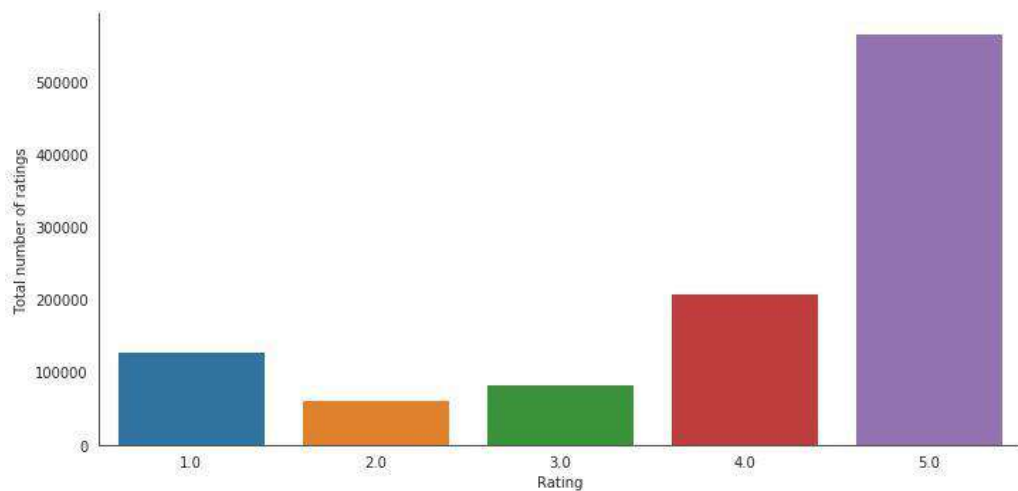


Fig. 2. Rating distribution of a Consumers

Net Promoter score was used to evaluate consumer's satisfaction and loyalty concerning amazon products. The formula for the same is given in

$$(1). NPS = (Promoters - Detractors)/Total ratings * 100$$

(1) Rating 1,2,3 are Detractors, Rating 4 is Passive and Rating 5 is Promoters.

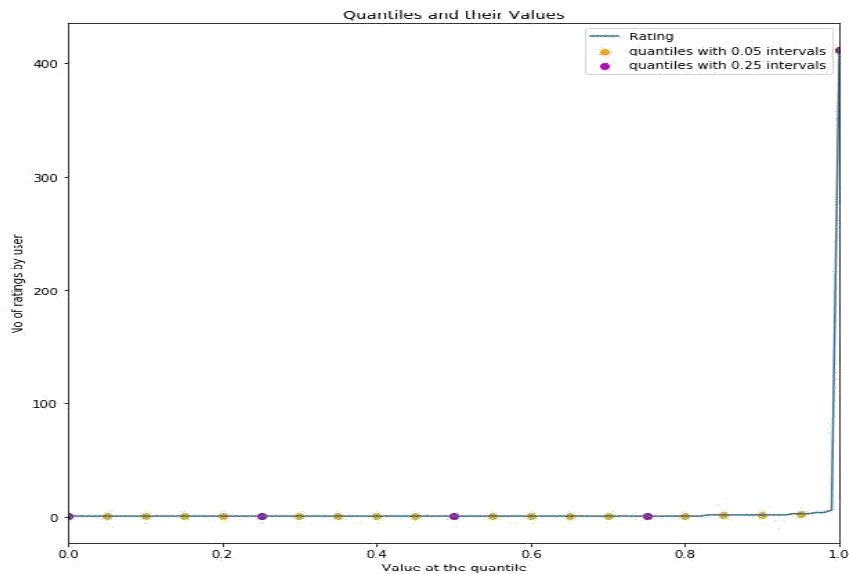


Fig 3. Analysing Rating of Consumers.

5. TECHNIQUES PROPOSED

We present two methods for evaluating customer behaviour in depth. These are the results of a sentiment analysis of all of the products. reviews to extract and comprehend customer feedback, and create recommender systems to provide a customised buying experience for the users. The review texts are first pre-processed, with all punctuation, stopwords, and stem/lemmatized phrases removed, and the cleaned text returned as a list of words. Our input variables are then vectorized. The CountVectorizer library function is used to do this. Tokenize a collection of text documents and generate a vocabulary of all the terms in that document with the CountVectorizer. This vocabulary aids in the transcription of fresh texts. The focus is on finding a pattern in the recurrence of words in that document. For analysing the sentiment score of each connected product review, we employed the categorization models below. In each of these models, 80 percent of the data is used for training and 20% is used for testing.

1) K Nearest Neighbours:

This classification model is used to locate the K closest neighbours of a given data item and determine which category it belongs to based on a distance measure. This model is a pattern recognition non-parametric supervised learning method. By presuming that comparable items are close to each other, it aids in categorising data points according to their commonalities.

2) Random Forest Classifier:

Random forests, also known as Random Decision Forests, are a type of ensemble learning method that combines numerous learning algorithms or instances of an algorithm to provide the best possible output. We create a large number of decision trees with this approach for random k points in the training set. Then, for each new data point, we generate a prediction using each of our decision trees, and output the class that is the mode of the classes or the mean forecast of the individual trees. The n estimators, or the number of trees in the forest, are set to 50 and the maximum depth of the tree is set to 90 in the random forest model.

3) Naive Bayes:

It is a supervised classification model that's based on Bayes Theorem. It assumes conditional independence between all the class variables. The Bayes theorem is given as follows:

$$P(A|B) = P(B|A) * P(A) / P(B)$$

- P(A) - Prior Probability is the probability of that event occurring in general, without any other event in the picture.
- P(B) - Marginal likelihood is the likelihood of any random variable added in the data to fall into a certain identified vicinity.
- P(B|A) - Likelihood is the probability of event B occurring given the occurrence of event A.
- P(A|B) - Posterior probability is the probability of event A occurring given the occurrence of event B.

4) The Support Vector Machine

is a classification model that is commonly used to distinguish between distinct categories using a decision boundary. The points in two classes are separated by a decision border. There can be several decision borders, but the Support Vector Machine method determines the best choice boundary. The greatest margin, which is a line equidistant from points in two different classes and having the maximum sum of the distance between the point and the line, is used to find the decision border. Support vectors are these points, and they play a big role in the algorithm's outcome.

5) Gradient Boosting Classifier

The algorithm's goal is to reduce the model's loss by employing a gradient descent-like technique to add weak learners. Weak learners are classifiers that are only minimally connected to the correct classification in this instance. It's a hypothesis-boosting algorithm of some sort. In hypothesis boosting, all of the observations used to train the algorithm are examined, and only those that were successfully classified are maintained, while the rest are eliminated. Only the observations of the set that were successfully classified are preserved, and a new weak learner is generated and tested on the set that was weakly classified. The number of boosting phases to complete is determined in our model.

6) Recurrent Neural Networks:

Recurrent neural networks are supervised learning algorithms in which the outcome of the previous phase is used as input for the following stage. RNNs are a network of nodes (neurons) that are grouped in layers. Input nodes, output nodes, and hidden nodes are all possible. All of the nodes are interconnected, which aids in the RNN model's memory, i.e. it recalls prior calculations. To do sentiment analysis on the reviews in our model, we used LSTM. LSTMs not only help to solve the problem of disappearing gradients, but they also store information in a gated cell. This cell, using gates that open and close, decides what information will be stored in the cell, read, written, or even wiped. These gates react to the signals they receive, blocking or allowing information to enter based on its intensity and importance, which they filter with their own weights. Through repeated backpropagation mistakes and gradient descent weight adjustment, the cells learn when to allow data to enter, exit, or be eliminated.

6. CONCLUSION

The purpose of this study is to assist e-commerce companies in monitoring product sales and gaining insight into client intents when purchasing a certain product. These studies assist businesses in better

understanding their clients and implementing focused marketing tactics to expand their customer base and profitability. We used several data visualisation techniques and conducted a detailed sentiment analysis on product evaluations to better understand consumer interactions with e-commerce sites. Sentiment analysis assisted us in evaluating consumer sentiments about various items, which in turn assisted us in analysing the product's market performance. With the use of natural language processing, we used five classification models for sentiment analysis of reviews and found that the Naive Bayes classifier produced the best results. Using these findings, we came to the conclusion that when a client shops on an e-commerce platform, his or her decision is influenced by a variety of factors. E-commerce businesses can identify such characteristics and take the required actions to provide better customer care and increase the lifetime value of their business.

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BIG DATA IN TELECOMMUNICATION INDUSTRY

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ABSTRACT:

Day by day telecom user increasing rapidly so the issue for managing data of user is big concern for telecom companies. Mining huge information faces a great deal of difficulties including adaptability, speed, Variety, accurate, source and protection. Equipped with large information, the telecom organizations are additionally strengthening plans of action. These are three parts of large information in the media communications industry. In the first place, the unusual attributes and points of interest of correspondence enterprises vast information talked about. Second, the advancement of the boundless information stage design is presented the detail, which joins five sub-frameworks. We feature the information mixture and information preparing frameworks. Three, inside or outside application regions dependent on huge information investigation are talked about, to be specific fundamental business, organize development, and clever following. The attributes of huge information is volume, Variety, speed and accurate, in information mining the huge measure of informational collections are handle utilizing by strategies and structure. All this issue can be solved with the help of different big data frameworks.

Keywords: Large information, mining, strategies, and structure.

INTRODUCTION:

In, this innovation transformation empowers many individuals to rapidly produce enormous measure of information at whenever anyplace from numerous gadgets, for example, cell phones, PCs and work areas notwithstanding consistent floods of advanced information from remote sensors. This information of huge sizes and unpredictability have more noteworthy estimation of shrouded information and important bits of knowledge. Mining enormous and complex informational indexes may remove concealed information and

important bits of knowledge. In this way, huge information mining has opened numerous difficulties and openings. The customary information mining methods cause challenges to remove the concealed information and bits of knowledge from huge information in light of the fact that these procedures can't deal with heterogeneity, volume, speed, precision and security joining huge information and huge information mining. In this way, many research ventures have been started over the most recent few years to beat these difficulties. Then again, the developing of the media transmission information traffic as per Cisco yearly anticipating will arrive at 8.6 zettabytes before the finish of 2018 up from 3.1 zettabytes every year in 2013. Subsequently, mining the tremendous measure of information just as mining ongoing information should be finished by new information mining methods/approaches. (D.che).

METHODS:

A. Big data system -

Enormous information has a great deal of difficulties because of its qualities, and furthermore mining this monstrous measure of information forces a basic test as the accompanying

A] characteristics of big data

The qualities of enormous information frameworks incorporate the "4 Vs". They are Volume, Velocity, Variety, and Veracity as appeared in Fig.

Volume: The measure of information matters. With large information, you'll need to process high volumes of low-thickness, unstructured information. This can be information of obscure worth, for example, Twitter information channels, clickstreams on a website page or a versatile application, or sensor-empowered gear. For certain associations, this may be many terabytes of information. For other people, it might be many petabytes.

Velocity: Speed is the quick rate at which information is gotten and (maybe) followed up on. Ordinarily, the most elevated speed of information streams straightforwardly into memory as opposed to being composed to plate. Some web empowered brilliant items work progressively or close to ongoing and will require constant assessment and activity.

Variety: Assortment alludes to the numerous kinds of information that are accessible. Customary information types were organized and fit perfectly in a social database. With the ascent of enormous information, information comes in new unstructured information types. Unstructured and semi structured information types, for example, content, sound, and video, need extra pre-processing to infer importance and help metadata. Volume alludes to the colossal measure of information that is being controlled and broke down so as to acquire the

ideal outcomes. The volume of information expands exponentially, and this speaks to a major test. The size of the information that is being handled can be boundless and the speed of preparing tasks is steady.

B. Big Data Use Cases in Telecom -

Media transmission organizations gather monstrous measures of information from call detail records, cell phone utilization, arrange hardware, server logs, charging, and interpersonal organizations, giving bunches of data about their clients and system, yet in what manner can telecom organizations utilize this information to improve their business?

Most telecom use cases fall into these fundamental classifications: client obtaining and maintenance, organize administrations streamlining, and security.

Example Telecom Big Data Use Cases:

Data-Driven Improvement of Services or Product

Telecoms need to share large amount of information between cell towers, clients and preparing focuses and because of it is imperative to process it close to the source and afterward productively move it to different server farms for additional utilization. MapR Event Store, another dispersed informing framework, is interestingly powerful to move large amount of information and to make this information accessible with so different server farms. With MapR Event Store, you can duplicate streams in an ace slave, many-to-one, or multi-ace setup between a huge number of geologically conveyed groups.

Existing System Previously, the client was utilizing FTP to move information from radio wires to territorial server farms and to the HQ Central Data community, yet the FTP move was slow all through the information passing through pipeline.

PROPOSED SYSTEM:

Presently information is gathered at territorial server farms with MapR Event Store and made accessible progressively to provincial dashboards. MapR Event Store Topics at territorial server farms are imitated in a many-to-one setup to the HQ Central Data Centre, making occasions accessible continuously to the HQ dashboard. This implies they would now be able to screen worldwide execution and respond sufficiently quick to improve client administrations. Map Reduce When working with a lot of information and we come up short on assets there are two potential arrangements: scaling on a level plane or vertically. In level

scaling, we take care of this issue by including more machines of a similar limit and dispersing the remaining task at hand. On the off chance that utilizing vertical scaling we rather scale by adding increasingly computational capacity to our machine (egg. CPU, RAM). Vertical scaling is simpler to oversee and control than flat scaling and is end up being effective if working with a generally little size issue. Albeit, even scaling is commonly more affordable and quicker than vertical scaling when working with an enormous issue. Map Reduce depends on level scaling. In Map Reduce, a bunch of PCs is utilized for parallelization making so simpler to deal with Big Data. In Map Reduce, we take the info information and gap it into numerous parts. Each part is then sent to an alternate machine to be prepared lastly collected by a predetermined gathering by work. (Cisco, 2018)

Big data in a nutshell

Information is developing quickly in each segment. Huge information, distributed computing, Internet of Things, and information science are the head inclining advancements that are determining development and change all through the world. Although every one of these innovations contrast from one another in a few perspectives, it's difficult to discuss one without the other.

Significance of big data: the current scenario

The world is progressively turning into a computerized space. Ventures manage tremendous quantities of organized and unstructured information consistently. The accompanying diagram, which is a consequence of an overview led by Dresner Advisory Services, clarifies the enormous information selection rate among businesses. (A, 2013)

BIG DATA TOOLS IN 2020 -

1) Hadoop:

- The Apache Hadoop software library may be a big data framework. It allows distributed processing of huge data sets across clusters of computers.
- Features:
- Authentication improvements when using HTTP proxy server.
- Specification for Hadoop Compatible File system effort.
- Support for POSIX-style file system extended attributes.
- It offers robust ecosystem that's similar temperament to fulfill the analytical needs of developer.
- It brings Flexibility in processing

- It allows for faster processing

2) Storm:

Storm could be a free and open-source big data computation system. It offers distributed real-time, fault-tolerant processing system. With real-time computation capabilities. (Agarwal, 2019)

FEATURES:

- It benchmarked as processing 1,000,000 100-byte messages per second per node. • It uses parallel calculations that meet a cluster of machines.
- It will automatically restart just in case a node dies. The worker is restarted on another node.
- Storm guarantees that every unit of information are processed a minimum of once or exactly once.
- Once deployed Storm is unquestionably easiest tool for Big data analysis.

CONCLUSION:

The large information created from a huge number of individuals utilizing advanced gadgets and furthermore the consistent floods of computerized information cause numerous difficulties. The challenges include scalability, speed, heterogeneity, accuracy and privacy. Mining enormous informational collections in media transmission organizations can help them improving client experience. In addition, mining large information in media transmission and offering the consequences of investigation and bits of knowledge to outsiders speaks to a major chance to this industry.

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BLOCKCHAIN IN AGRICULTURE

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Block chain technology is attracting remarkable attentions in various agricultural field. Block chain tends appear as a digital technology that allows everywhere financial or economical transactions among distributed trust less parties, without the need of middleman such as banks, supplier agents etc. This research inspects the impact of Block chain technology in agriculture field. Our findings indicate that Block chain is a promising technology towards a transparent agriculture, with many ongoing initiatives in various fertilizers and farmer related issues, but many barriers and challenges still exist, which hinder its wider popularity among farmers and systems. These challenges involve technical aspects, education, policies, and monitoring arrangements. In this research paper, we provide a survey to study both techniques and applications of Block chain technology used in the agricultural sector.

Keywords: Block chain Technology, Agriculture, Digital Currency, Food Supply Chain, Bitcoin



INTRODUCTION:

Over an era has passed since the release of the whitepaper “Bitcoin: A Peer-to-Peer Electronic Cash System” by the dummy author [1]. This work set basis for the development of Bitcoin, the first cryptocurrency that allowed reliable financial transactions without the need of a trusted central government, such as banks and financial institutions [2]. Bitcoin solved the double-spending problem (i.e., the flaw associated to digital tokens because, as computer files, can easily be duplicated or fake), with the invention of the Block chain technology. A Block chain is a digital transaction records, maintained by a network of multiple computing machines that are not relying on a trusted third party. Individual transaction data files (blocks) are managed through specific software platforms that allow cryptocurrency transaction.

The contributions of our work may be marked as: (i) we make a vision investigation of the present applications of Block chain in agriculture sector and highlight probable uses of the 2 Block chain technology, (ii) we advise suitable Block chain schemes within the agricultural sector by a representation of the technical details of the first components in Block chain technology, (iii) we further identify the basic challenges in many novel agricultural applications and discuss alternative solutions, and (iv) we present a post COVID-19 pandemic situation Block chain based supply chain system to boost the resource allocation when managing unexpected event emergency. Our work provides an absolute study within the agricultural context. within the work, both technical details and practical aspects are covered in order that our understandings may well be wont to suggest suitable techniques and respective platforms for individual applications in their own agricultural scenarios.

Figure 1: Example of a Block chain containing n blocks, in which each successive block contains the hash of the previous block, a timestamp, the transaction information, the nonce number for the mining process and other details needed for the protocol to work.

Literature Review:

The Block chain was first introduced as a global platform for the digital currency of Bitcoin. The Bitcoin global network is also the largest and oldest Block chain network in the world. Today, Block chain technology is not only a platform for cryptocurrencies, but also has many applications and good advantages. The Block chain technology is based on the divided records. A divided record is a database that is updated independently by every participant (or node) on a large network. The distributed database indicates its hype. In this case, the files are not transferred to different nodes by a central authority but are created and maintained independently by every node (computer). However, Block chain can maintain security, safety

and privacy as every transaction is verified by using public–private-key cryptography, and the transaction records on the blocks can't be modified and updated once they are accepted as parts of the table chain because they are attached to each other. The Block chain technology has played a very big important role in a variety of business, agricultures sector and social interactions due to transparency, security, and performance improvement. In a Block chain system, all data block is identified by a hash encryption function and interacts with other blocks, forming a data Block chain. Accordingly, the Block chain technology decreases the role of middleman that cause disturbance, hacking, and fraud. When the Block chain technology is used, trust in the network and its operations is increased. This technology makes it possible to create and transfer digital assets with high confidence. Another feature of this technology is the smart agreement module, which stores the negotiation terms and confirms the results against the agreed terms. This reduces the role of negotiators, increasing transparency in transactions and interactions [9]. These Block chain capabilities are also used in a supply chain.

OBJECTIVES:

• Smart Farming:

Smart farming or smart agriculture is the process of utilizing various modern technological developments. It will improve the efficiency, reliability, and the farming process.

• Food Supply Chain:

Based on the utility and potential of Block chain in agriculture, numerous smart farming models can be developed so that it will help to conclude the features of Block chain technology and IoT.

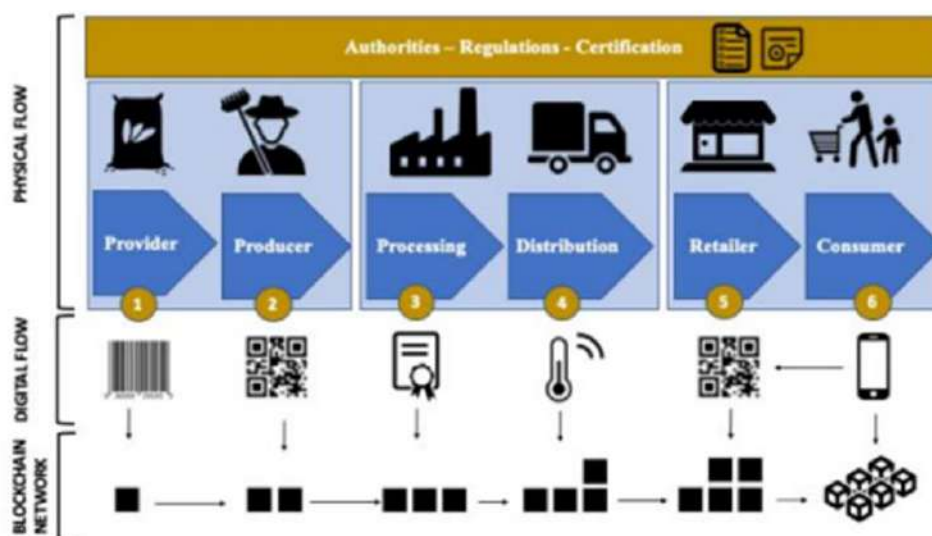
• Smart Farming Technology:

Numerous companies have been spending a lot of time and resources to develop various pieces of technology related to smart farming. So, by this various smart farming technology will be developed.

METHODOLOGY:

The use of Block chain technology helps to create a faithful relationship with consumers and build up the reputation of their products, by transparently providing individual product information and data in the Block chain. This project can better achieve the value of their products and thus increase the value of strength. This would make it difficult for suppliers of

fraud, scams and low-quality products to stay in markets and force all suppliers to better improve the quality of products in the entire agricultural and food sectors. From the consumers' point of view, the Block chain makes true, better, and reliable information about how food is



produced and organized in the market. It helps address consumers' concern about the safety, quality, quantity, and environmental friendliness of food. The use of Block chain provides the possibility for consumers to interact with producers because consumers can better understand the entire food production process more conveniently and in more details. Block chain technology supports consumers by remove exchange of goods to build their relationship, and thus strengthen consumer trust and confidence in food supply chain safety. From the regulatory agencies' perspective, Block chain makes reliable and accurate information available for them to carry out informed and efficient protocols. Block chain can record the information of a product from its origin to the retail store. It provides a secure and immutable way of storing data collected at the start of the supply chain. Such information can be checked and verified by any party involved in the supply chain process of the product. Collecting such data for all products can be very costly, but it can be done on samples. The transparency of such information can help detect frauds in agriculture problems, obstacles in it.

Potential Benefits:

Block chain technology offers many useful benefits, as it can provide a secure, separated way to perform and complete transactions among different unsafe parties. This is a key element in agriculture and food supply chains, where multiple actors are involved from the raw production to the supermarket shelf. To improve traceability in value supply chains, a circulated ledger helps to connect inputs, suppliers, producers, buyers, regulators that are far apart, who are under different programs, different rules (policies) and/or using different applications. Via smart

contracts, manufacturers can develop scalable and flexible businesses at a lower or cheaper cost, and the overall effectiveness of manufacturing services can be improved.

APPLICATIONS:

1) Agricultural Insurance

Agricultural insurances differ with respect to how losses are measured and consequently how outcome profit are produced. Insurances that satisfy farmers based on a damage assessment that was made by an expert on the farm are denoted as satisfying insurances. Satisfying insurances are able to precisely cover losses, however, they are prone to problems arising from asymmetric information problems. More specifically, information on the riskiness of the agricultural production and production practices is asymmetrically distributed between farmer and insurer. Farmers are expected to be better informed about both which encourages improper selection and moral hazard.

2) Smart Agriculture

Many smart farming models are proposed and implemented supported the joint applications of IoT and Block chain technology. Within the greenhouses, IoT sensors act as a non-public local Block chain that centrally managed by the owner. The core of the network may be a platform that helps to make trust among actors using Block chain. Agents associated with products from its plantation to sale can access the info stored within the Block chain through smart mobile phones. ICT e-agriculture model for the utilization at the local and regional scale, during which each actor contains a piece of real-time water quality data stored within the Block chain.

ADVANTAGES OF AGRICULTURE:

- 1) Block chain in agriculture enables peer-to-peer transactions to occur with vast transparency and does not require an intermediary or middleman in the process.
- 2) Block chain helps us to enhance and restore the trust between various stakeholders and farmers such as consumers and producers. This can help to decrease or reduce the transaction cost in the market in the long run.
- 3) Tracking products in a wide supply chain is much easier with Block chain technology. This helps ease the customer's minds with regard to the safety and quality of the foods they consume.

LIMITATIONS OF AGRICULTURE:

- 1) The motivations of all transacting parties to provide accurate information on the Block chain ledger needs to be further studied. This becomes especially vital for small-scale farmers.
- 2) The overall technological easier for small farms to participate in the insurance created by Block chain, it is more convenient for larger farms to collect and integrate various sources of real-time farm data.
- 3) Uploading the data to a Block chain is known to be an expensive process. This acts as a barrier to the adoption of Block chain by farmers who cannot afford it. While setting up the ledger itself is relatively inexpensive, the process of accumulating the data can be time intensive and costly.

CONCLUSION:

Block chain has massive potential to remarkably impact the way agricultural business is done. Block chain technology can increase trust between farmers and consumers. As information sharing throughout the supply chain and remarkably reduce agricultural transaction costs. As the public and private sectors work toward addressing the practical and legal challenges facing the technology, Block chain prepared to be the disruptive force that gets moving the agricultural sector into the 21st century.

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CROWDFUNDING BASED ON BLOCKCHAIN TECHNOLOGY

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ABSTRACT:

Crowdfunding is a way to raise funds for a specific cause or project by asking many people to donate money. Usually, in small amounts. in this new technology world, there are many fraud scams in crowdfunding that's the region many investors do not trust in beginners' entrepreneurs. But after using block chain in crowdfunding, so many problems are automatically solved, removing the need for intermediate third parties. Any project can get visibility and funded if the investors think to invest, eliminating fees which makes crowdfunding less expensive for the creators.

Keyword: crowdfunding, blockchain, investor, transparency, entrepreneurs.

INTRODUCTION:

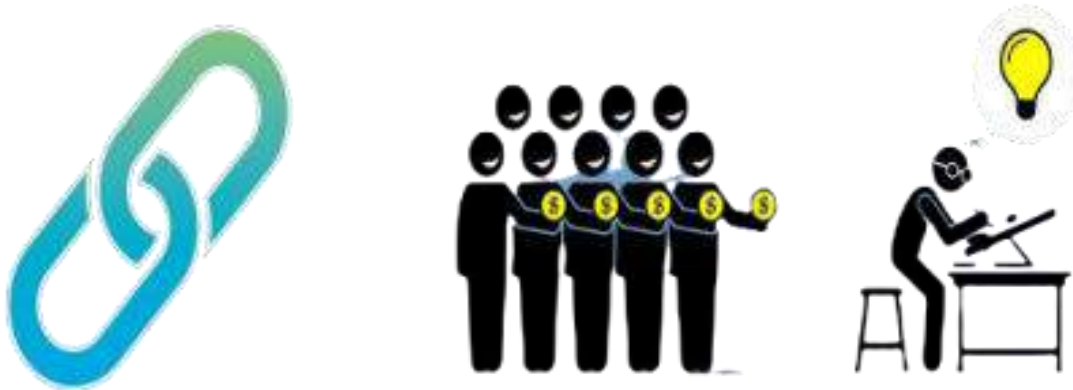
A significant challenge for youthful entrepreneurs that want to apply an idea through the business plan is the lack of difficulties in fundraising via traditional ways.

In 2022 numerous countries will be using blockchain technology. These are the newest and safest ways to collect finances. That is why it's safer than other traditional crowdfunding ways. Blockchain is if the system is recording information to make it difficult to change. Hack. or cheat if the system.

A blockchain is the digital tally of deals distributed across the entire network of computer systems on the Blockchain. Each block in if the chain contains the number of transactions. And every time. Suppose the new sale occurs on the Blockchain if the record of that sale is added to every party's tally. The decentralized database managed by multiple actors is known as Distributed Ledger Technology (DLT).

The Crowdfunding Platform in Blockchain makes different possibilities for the start-ups by raising finances to produce their digital currency. And it's the peer-to-peer fundraising model.

Some crowdfunding cryptocurrencies platform are coin space—Swarm etc. Crowdfunding has offers for generators and other consumers. Anyone can share In this crowdfunding if they've constructed any new cryptocurrency (e.g., Ethereum) and can contribute as important as they want.



LITERATURE REVIEW:

Crowdfunding may be a new and innovative method for funding for individual entrepreneurs. Wherein individual founders can request funds. The fund is usually given reciprocally for future products or equity.

The crowdfunding platform has emerged in recent times. Blockchain could be a unique, independent, and transparent system that keeps the transaction between investors transparent. Crowdfunding relies on the trust between investors and stakeholders^[2]. The latest technologies have excellent potential for crowdfunding organizations as an individual. Blockchain is a socially related crowdfunding platform.

PROPOSED MODEL:

Create a campaign

The user will access the Campaign with the user interface to create a new campaign. To create a movement, we need to provide a campaign title, minimum contribution, and campaign description. For every transaction, a specific gas fee is required for processing. Thus, when the user clicks the "Create" button, a new campaign will be created with associated gas fees. After 10 to 20 seconds, the transaction will be completed, and a new block will be added to the blockchain with the contract address. After the Campaign is created, it will be displayed on the home page.



The screenshot shows a web interface for creating a campaign. At the top, there is a header with 'CrowdCoin' on the left and 'Campaign' with a dropdown arrow on the right. Below the header, there is a 'Back' link. The main heading is 'Create a Campaign'. The form contains the following fields: 'Campaign Title' with the value 'SmartCoin', 'Campaign Description' with the value 'This is a smart currency capable of splitting into change', and 'Minimum Contribution' with the value '100'. A blue 'Create' button is located at the bottom left of the form.

Create a request:

After creating a new campaign, the investor will invest and contribute. The user cannot use the money directly. To use them, they need to provide the request for use. If the user wants to buy something for the project, he needs to create a proposal for buying with detail and the vendor address. This will then make a transaction, adding a block to the blockchain. He can't use the money directly because using money directly will lead to many scams that present with many crowdfunding platforms

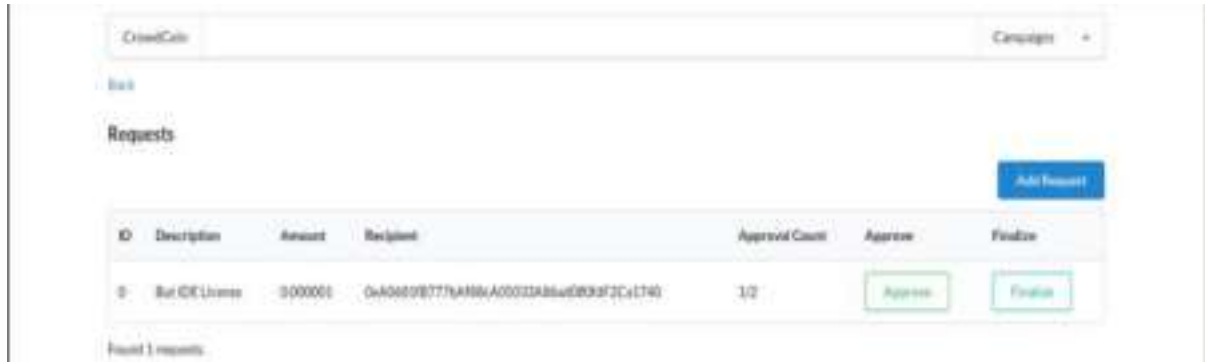


The screenshot shows a web interface for creating a request. At the top, there is a header with 'CrowdCoin' on the left and 'Campaign' with a dropdown arrow on the right. Below the header, there is a 'Back' link. The main heading is 'Create a Request'. The form contains the following fields: 'Description' with the value 'Buy IDE license', 'Value in Ether' with the value '0.000001', and 'Recipient' with the value '0x104118777b49bA05023486e0806F2C1740'. A blue 'Create' button is located at the bottom left of the form.

Request approval method

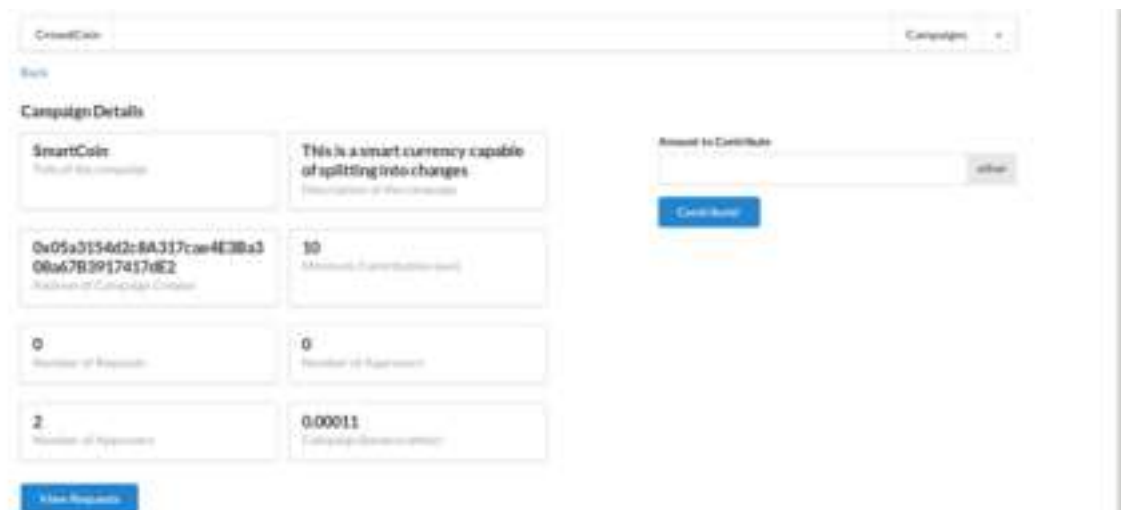
The campaign creator will request money to buy some accessories or anything with proof. Then all investor will notify that the creator needs to spend some money. So investor needs to

approve the request if he wants. At a specific time, all the investors should vote. All the approval will be recorded and stored in the block. After that, the investor cannot approve again.



Finalized:

When the Investor votes, all the approval are recorded. If the approval is more than the specified condition, like 2/3, the money will be automatically transferred to the Vendor that the creator needs to send. All the transactions are stored in the Crowd Funding using Blockchain. Therefore, the creator should specify the Vendor in detail and the address to which money should be transferred. After the money is transferred, the campaign detail with a summary will be displayed.



ADVANTAGES OF PROPOSED MODEL:

1. Blockchain is decentralized. Beginners no longer are obliged to any rules. As a result, any project can get visibility and funded if the investors think to invest, eliminating fees which makes crowdfunding less expensive for the creators.
2. Blockchain relies on asset tokenization. For example, a person plans to create multiple new products with the incoming funds and grant a small ownership stake in the company.
3. This could potentially open a whole new world of opportunity. In addition, any person with an internet connection can contribute to projects.
4. There are many areas where blockchain support and improves crowdfunding. First, crowdfunding platforms blockchain technology removes the need for intermediate third parties.

DISADVANTAGE OF EXISTING SYSTEM:

1. It's not an easier process to get fundraising in traditional ways - not all projects that apply for crowdfunding platforms get into them.
2. When you are on your chosen platform, you need to do a lot of work on project launches. significant resources (money and time) may be required^[v]
3. If you have not protected your business idea with a patent, someone may see it on a crowdfunding site and steal a copy of your concept.
4. in the current time lot of fake crowds, fundraising is working. example
<https://www.thenewsminute.com/article/fake-fundraising-campaigns-tarnish-growing-crowdfunding-concept-india-153349>.

CONCLUSION:

Blockchain-based crowdfunding provides more security, and it a transparent^[2]. Crowdfunding is not an easy task. It requires so much money and hard work. The use of blockchain method will come easy. Funding is helping new start-ups and innovators, entrepreneurs and other creators. In the future, when blockchain will provide the backbone of major investor contributions, it will make crowdfunding easier, transparent and accessible. The expectation is that it will enhance trust among investors and invests, provide technical solutions in terms of anti-fraud inspection, and improve the platform's security and trustworthiness.

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DIGITALIZATION IN HEALTHCARE CENTER

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ABSTRACT:

In today's web-technology is widely spread in all over the fields whether it be e commerce, banking, education and it's been widely used in today's time where everyone is mostly prefer working in home due to pandemic. SO technology as made the life easy. but the most important thing is health in this going days, due to pandemic most of the people have been suffered because of not getting proper information of hospital beds, medicine, oxygen cylinder due to which many of us have lost their family, friends. So digitalization in Healthcare should happen rapidly and smoothly. which will avoid paper work by using software and can be easily reach to doctor by taking appointment to booking medicine online, and online payment as well and patient can access their health report directly via software they can check online beds and oxygen cylinder to.

INTRODUCTION:

Has every web-technology increasing rapidly and easily because every individual whether it be in rural or urban are using smart devices so it will be very easy for people to get connected with hospital through software .as villagers are not every comfortable to travel every time to city to visit doctor and even they don't know whether the doctor is available or not .so this technology will provide the user to book appointment online just by visiting the site with their convenient time where they don't need to go to the hospital and get into the line for the appointment or call for appointments .even they get the confirmation of appointment by their registered mobile no or email address that they have provided at registration. And even to store all the hospital reports and patient details will be stored in the database of the system where the patient and doctor can easily access through their logins and it can be updated where we don't need to go the hospital infrastructure to find the files of the patient, even we can find years of file in database easily without any confusions by their patient id. patients can easily

book the medicine which will get to them without going to the pharmacist they can book medicine just by uploading the prescription that the doctor has given. Doctor can access this site by their login credentials where they can check their appointments and patient reports before visiting the patient, doctor can give medical tests for patient, where patient can book this tests in the site and get done by with their convenient time and date. After completing all the procedure, they can do online payment, where they get online invoice receipt to their registered mobile no or email address. User can check the availability of beds and oxygen cylinder status just by visiting the website they don't need visit at hospital to know the beds and cylinder availability

LITERATURE:

1. Gümüşhane University, Faculty of Health, Gümüşhane, Turk in their research it was stated has hospital should get digital and paperless work should be conducted that will be more efficient to work, with less human made mistake.
2. Kotapati Saimanoj¹, Grandhi Poojitha², Khushbu Devendra Dixit³, Laxmi Jayannavar
In research paper discussion was on how to manage hospital including patient doctor modules and keeping the records safe and secure.
3. J. Environ. Res. Public Health 2020, in research paper discussion was on how the payment and hospital digitalization help in this pandemic that will help the people during their tough time
4. Sascha Krausa Francesco Schiavonebc Anna Pluzhnikovad Anna ChiaraInvernizzie
The review in this article state that the digital transformation in health care, and how the module is interconnected or linked with each other.

OBJECTIVE:

- The main objective of the article is to develop a website based on healthcare to maintain the records of patient and to book the appointment, medicine online which will help it in during pandemic like situation.
- This project is intended to provide user friendly interface to user.
- Keeping records and arrangements are done very quickly and efficiently.

Existing system:

Existing system is not totally digital. till now hospital use the manual system to manage the records of the patient so it makes loss of data and loss of paper where data cannot be retrieve which will make a lots of damage. So to store this large number of file it needs a large infr structure in hospital to maintain the papers, where even need a people to maintain this paper arrangements, so hospital will need more staff to manage it.

PURPOSED SYSTEM:

- This software is for the automation of healthcare centre.
- This software as user, doctor pharma, pathology, admin, receptionist module.
- The software includes maintaining patient detail, providing prescription, precaution and diet advice, providing and maintaining all kind of test reports, online payment.

LIMITATION OF EXISTING SYSTEM:

- Need more staffs for work
- Records can't be maintaining properly
- Time consuming
- Advantage of Proposed System
- It can be accessible by all user.
- No commission is required for booking
- There no paperwork required
- Booking process is easy and effective

CONCLUSION:

In this paper, a solution is made for the healthcare care centre where this centre are moved to digital which will make the people to connect with hospital efficiently, easily, rapidly, and smoothly. even it will make healthcare centre to spread widely over the country .in this system even doctor's patient can connect to each other records can be kept and arranged. bookings can be done easily for medicine, tests and appointments.

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Smart Parking Allocation of Vehicles using Sensors and Wireless Technology

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Abstract:

The rapidly growing population of India is creating many problems in the cities, traffic congestion and vehicle parking is considered as one of the major issues faced by the people. As the numbers of vehicles on road are increasing, parking problems are becoming more prominent. People face problems of space availability, searching time and waiting time in public places like hospitals, railway stations, colleges, shopping malls etc. Finding a parking space especially during the office hours is difficult for drivers. The difficulty arises from not knowing the available space at that time and even if it is known, many places will have very limited parking space which causes serious traffic congestion.

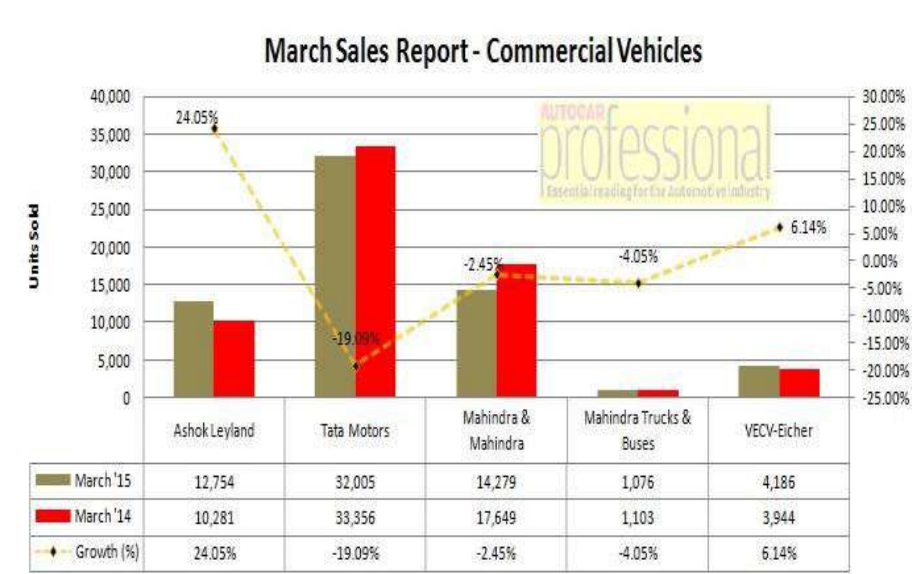
In this paper, we implement the prototype of smart parking system that allow drivers to find and reserve the vacant parking spaces. Smart parking system will use various sensors, wireless communication technology, to solve these issues. It will generate parking details such as available slot, direction, duration, billing details, and revenue etc. The drivers are allowed to access this dynamic parking system in their personal communication device or with the help of GSM, short messages can be sent in their cell phones. This system will save driver's time and it will also minimize the wastage of fuel. This will allow the parking authority to monitor the parking space and enhance the parking management.

Keywords: *Parking area, sensors, controller, password, entry and exit*

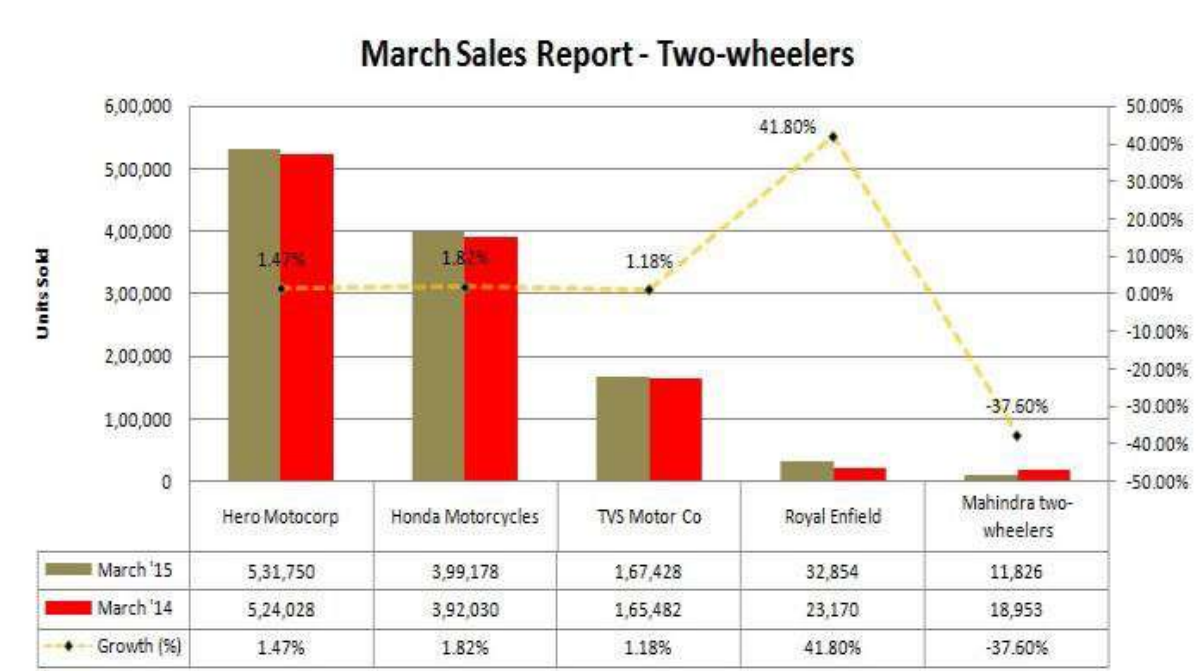
1.Introduction

The rapidly growing population of India is creating many problems in the cities, traffic congestion and vehicle parking is considered as one of the major issues faced by the people. As the numbers of vehicles on road are increasing, parking problems are becoming more prominent, Li et al (2004).

Graph given below shows the rate at which the vehicles have been purchased.



Source: <http://www.autocarpro.in/analysis-sales/india-sales-analysis-march-2015-automakers-fy2014-happy-note-8107>

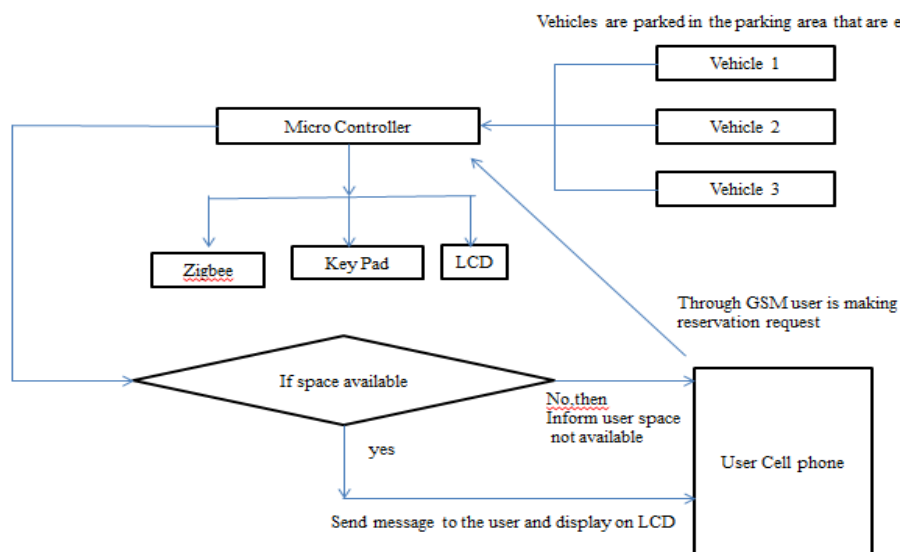


Source: <http://www.autocarpro.in/analysis-sales/india-sales-analysis-march-2015-automakers-fy2014-happy-note-8107#sthash.GEGY3Cfn.dpuf>

A smart parking allocation will provide a solution for these issues. The proposed works by providing entry and exit password securities, and the system will be very much cost effective Greunen et al (2003).

The diagram shows that many cars are parked in the parking lot, these are all sensed by the sensors and sensor in turn is connected to the microcontroller. Microcontroller is connected to the barrier gate. It is also connected to the zigbee, keypad and LCD. When the vehicle arrives at the entrance of the barrier gate, it will sense and sends the information to the LCD indicating the arrival of the vehicle which is waiting to park. User’s mobile can get the details about the parking status through the GSM. GSM in turn will send the information to the CPU and the LCD. Anuja et al (2003)

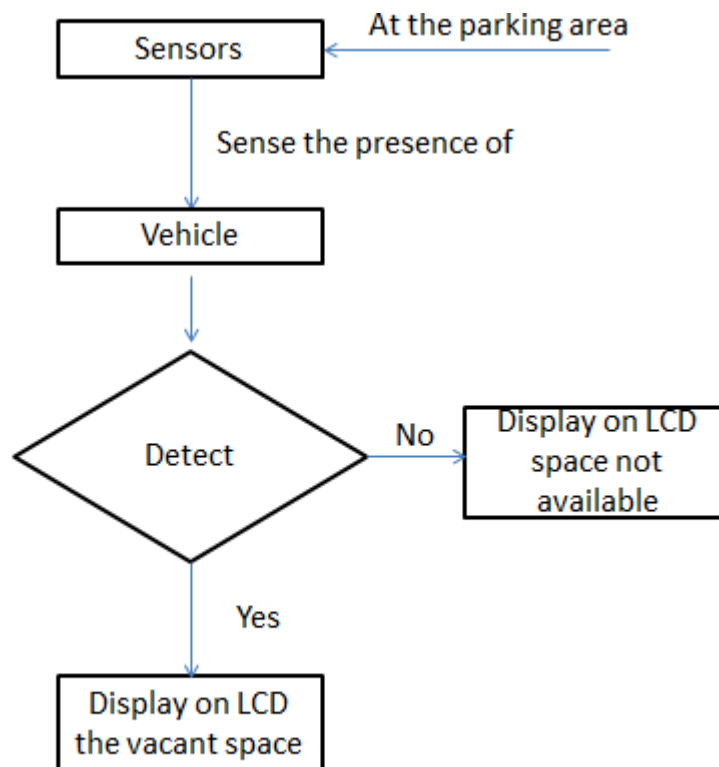
Diagram



3. Proposed Model

3.1 Identification of available space in the Parking Area

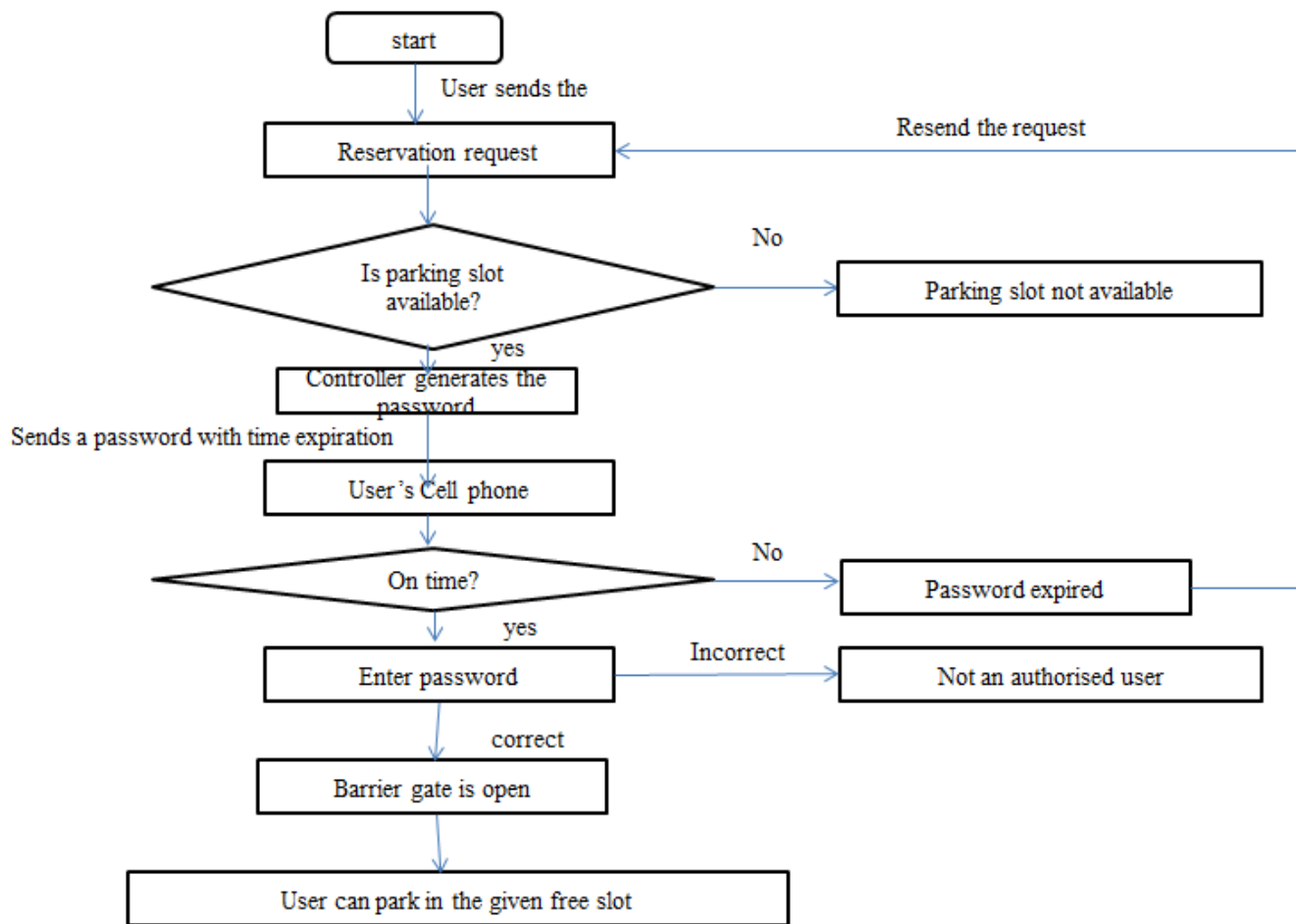
The parking area is provided with sensors which will sense the presence of vehicles in the parking area continuously entire day. Any detection of vehicle in the parking area, will send signal to the microcontroller to which it is communicated. The microcontroller will in turn send the status information to the Zigbee node which is also interfaced with the microcontroller, which in turn is interfaced with a system at the entrance of the parking gate. Then the parking area status is updated in the database system. A display device is provided at the entrance of the parking gate which helps the users to identify whether the parking slot is available or not. Pola et al (2019).

Diagram**3.2 Reservation Module**

When the user wants to reserve a parking area in advance, user will send an SMS through his cell phone. When the system receives the SMS from the user, it will start to check its database whether any vacancy is there. If the parking area is available from the database, then that particular area code will be given back along with the entry password to the user's cell phone with a one-time password of few seconds' validity Megha et al(2019).

After receiving the password, user will reach the parking gate and will prompt to enter the password within the stipulated time. If the password is correct and entered properly then the barrier gate will be open and the user is allowed to access the parking area and will park its vehicle at the respective slot allocated to him. at the parking slot there will be a sensor and camera that will provide security and monitor the vehicle. if the password is not entered in that time slot, then the password will be expired. And user will get an alert message stating the password is expired for the reservation slot.(Kayashta et al 2014).

Diagram



3.3 Security Module

After the parking of the vehicle, the database is updated with the user’s information such as the user name , vehicle number, parking slot code and user’s mobile number. The sensor placed in that area will continuously monitor the presence of vehicle. If the vehicle is taken out from the parking slot then the sensor will send the signal to the controller and the controller will in turn send the signal to the system .The system will immediately generate an exit password and send it to the user’s cell phone. User will type the exit password and is allowed to leave and barrier gate will be opened.

This security module also takes care If the vehicle is taken out from the parking slot by an unauthorized person, sensors placed at the parking slot will sense it and sends the exit password to the user’s cell phone and user will come to know that some unauthorized person is trying to access his/her vehicle as well as the barrier gate will not open until correct exit password is entered which is actually known to the user.

Thus, vehicle theft can be protected at the parking areas such as malls, hospitals etc.(Vaibhav Et al , 2016)

4. CONCLUSION

This system will work better in this smart generation with smart parking system, as it reduces the traffic and congestion and also provides higher level of security for the vehicles parked in the respective parking slot. Security is maintained by entry and exit password which the user is only allowed to enter. This system considered to be of less cost and highly secure.

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ETHICAL HACKING AND HACKING ATTACKS

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ABSTRACT:

Hacking is the way to find out the weaknesses and vulnerabilities in the system or computer network it is describe the ethical way for any network now days all information is available online a large number of user can access it some of using to gaining knowledge and some use it to know how to use this information to destroy or steal the data of websites or databases without the knowledge of the owner .The purpose of this paper is to tell what is hacking , who are hackers, what is exactly ethical hacking , the type of ethical hacking and small introduction of linux operating system is given in this paper., All the techniques are performed on the Linux operating system named Kali Linux after that some basic attack are cover like MiTm Attack (Man in the Middle Attack), Phishing Attack, Dos(Denial of Services Attack) father Explain is Wi-Fi, what are the Techniques use in the Wi-Fi protection and methods used by hacker I have tried to explore the ethics behind the ethical hacking and the problems lie with this particular field of information technology where security is concerned Though ethical hacking has a very upcoming technological subject from the last years Hacker n this context have had a very measurable impact on society.

Keywords: -Hackers, Ethical Hackers, Education and Training

INTRODUCTION:

The term 'Hacker' was coined to describe experts who used their skills to re-develop mainframe systems, increasing their efficiency and allowing them to multi-task.

Nowadays, the term routinely describes skilled programmers who gain unauthorized access into computer systems by exploiting weaknesses or using bugs, motivated either by malice or mischief. For example, a hacker can create algorithms to crack passwords, penetrate networks, or even disrupt network services. Ethical hacking is a profession where hacking methods are used to help organisations in preparing for impending cyber-attacks. Unlike hacking, ethical hacking is used with good intent to help individuals and organisations and serves a greater purpose of securing important data and networks from malicious hackers. Ethical hacking

becoming a powerful policy in fighting online threats with rise of cybercrime. Generally, after hearing the term hacker we all think of the bad guys who are computer experts with bad intentions, who tries to steal, leak or destroy someone's confidential or valuable data without their knowledge. They are the persons with very high computer skills who tries to break into someone else security for gaining access to their personal information, but all the times it is not like that. To overcome the risk of being hacked by the hackers we have Ethical Hackers in the industry, who are also computer experts just like the hackers but with good intentions or bounded by some set of rule and regulations by the various organizations

What is Hacking?

Information is one of the most valuable assets of an organization. Keeping information secure can protect an organization's image and save an organization a lot of money. Fake hacking can lead to loss of business for organizations that deal in finance such as PayPal. Ethical hacking puts them a step ahead of the cyber criminals who would otherwise lead of business.

Ethical Hacking is legal if the hacker abides by the rules stipulated in the above section on the definition of ethical hacking. The international Council of Ecommerce Consultants (EC-Council) provides a certification program that tests the certified are supposed to be renewed after sometime. Hacking is identifying and exploiting weaknesses in computer systems and or computer networks. Hacker may be motivated by a multitude of reasons such as profit, protest, information gathering, challenge recreation or evaluation of a system weaknesses to assist in formulating defences against potential hackers.

Hackers:

The term HACKER in popular media is used to describe someone who breaks in to someone else's security using bugs and exploits or use his expert knowledge to act productively or maliciously. Hackers are the computer experts in both hardware as well as software. A hacker is a computer enthusiast and master in a programming language, security, and networks. He is kind of person who loves to learn various technologies, details of the computer system and enhances his capability and skills. According to the way of working or based on their intentions HACKERS can be classified into three groups:

- **White Hat Hackers**
- **Black Hat Hackers**
- **Grey Hat Hackers**

White Hat Hackers:

A white hat hacker is a computer security specialist that breaks into and find loopholes in the protected networks or the computer systems of some organization or company and corrects them to improve the security. White Hat Hackers use their skills and knowledge to protect the organization before malicious or bad hackers find it and make any harm to the company or the organization. White Hat Hackers are the authorized persons in the industry, although the methods used by them are similar to those of bad hackers but they have permission from the organization or the company who hires them to do so.

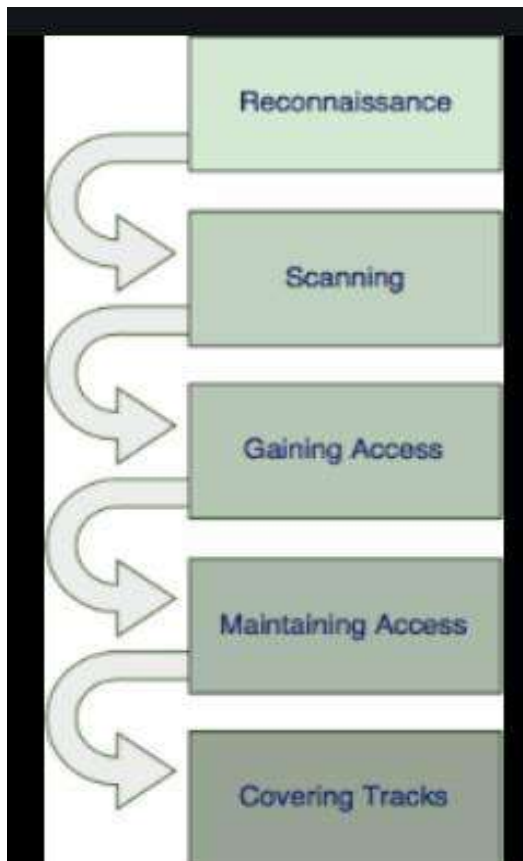
Black Hat Hackers:

A Black Hat Hacker also known as a “Cracker” is a computer hardware and software expert who breaks into the security of someone with malicious intent or bad intentions of stealing or damaging their important or secret information, compromising the security of big organizations, shutting down or altering functions of websites and networks. They violate the computer security for their personal gain. These are persons who typically want to prove their extensive knowledge in the computers and commits various cybercrimes like identity stealing, credit card fraud etc.

Grey Hat Hackers:

A Grey Hat Hacker is a computer hacker or security expert who sometimes violates the laws but does not have any malicious intentions like the black hat hackers. The term Grey Hat is derived from the Black Hat and the White Hat as the white hat hackers find the vulnerabilities in the computer system or the networks and does not tell anybody until it is being fixed, while on the other hand the black hat hackers illegally exploits the computer system or network to find vulnerabilities and tells others how to do so whereas the grey hat hacker neither illegally exploits it nor tells anybody how to do so. Grey Hat Hackers represent between the white hat hackers who operate to maintain system security and the black hat hackers who operate maliciously to exploit computer systems.

Now the methodology or the path followed by the Hackers is as follows:

**Reconnaissance:**

This is process where collecting information about the target system is called reconnaissance. It is the practice of covertly discovering and collecting information about a system. In ethical hacking Reconnaissance is a set of processes and techniques (Foot printing Scanning) used to covertly discover and collect information about a target system.

Scanning:

Scanning is a set of procedures for identifying live hosts, ports, and services, discovering Operating system and architecture of target system. Identifying vulnerabilities and thefts in the network. Network scanning is used to Create a profile of the target organization. In this phase the information gathered in the reconnaissance phase is used to examine the network and tools like Dialers, Port scanners etc. are used. NMAP is the popular, powerful and freely available tool used in scanning.

Gaining Control: -

This is the real part of the hacking procedure where the information gathered in the previous two phases is used to enter and take control of the target system through the network or physically.

This phase is also called “Owning the System”.

Maintaining Access: -

After gaining entry in the system in the previous step the hacker maintains the access to system for the future attacks and make changes in the system in such a way that any other security personal or any other hacker does not get the entry into the system into which is hacked. This is the situation in which the attacked system is known as the “Zombie System”

Who Are Ethical Hacker: -

Ethical hackers are employed by organizations to penetrate networks and computer system with the purpose of finding and fixing security vulnerabilities. The EC=Council offers another certification known as Certified Network Defence Architect. This Certification is agencies and is available only to member of selected agencies including some private compliance to. DOD Directive 8570.01 Ethical hacking is a branch of information security. It is also called “Penetration Testing” or “White Hat Hacking”. It is a type of hacking performed by an individual or a company, which helps in finding threats and loopholes in the computer system or network’s security of the organisation. It is a term which is being used by professional in order to make system more secure and safe. The techniques or the methods used in the ethical hacking are very similar to those of malicious hacking but the difference is they are legal here they are used in a productive manner. A person will be called an Ethical Hacker. The information gained from ethical hacking is used in maintaining system security and to prevent the system from any further potential attacks.

Need of Ethical Hackers in The Industry:

Ethical hackers also perform security tasks like hackers; however, it is to protect the computers and networks of an organization. They have the permission to hack organization network in order to perform tests that keep it safe from illegal hacking as every organisation has its own confidential information which can be hacked by the malicious hackers or can be damaged by them therefore in order to protect that information the organisations hire ethical hackers and allow them to hack their own systems ethically any find flaws or loopholes in their systems and correct them before any hacker hacks it

Phishing Attacks: -

Phishing attacks are the practice of sending fraudulent communications that appear to come from a reputable source. It is usually done through email. The goal is to steal sensitive data like credit card and login information, or to install malware on the victim's machine. Phishing is a common type of cyber-attack that everyone should learn about in order to protect themselves.

How does phishing work?

Phishing starts with a fraudulent email or other communication that is designed to lure a victim. The message is made to look as though it comes from a trusted sender. If it fools the victim, he or she is coaxed into providing confidential information, often on a scam website. Sometimes malware is also downloaded onto the target's computer.

What are the dangers of phishing attacks?

Sometimes attackers are satisfied with getting a victim's credit card information or other personal data for financial gain. Other times, phishing emails are sent to obtain employee login information or other details for use in an advanced attack against a specific company. Cybercrime attacks such as advanced persistent threats (APTs) and ransomware often start with phishing.

How do I protect against phishing attacks?

User education One way to protect your organization from phishing is user education. Education should involve all employees. High-level executives are often a target. Teach them how to recognize a phishing email and what to do when they receive one. Simulation exercises are also key for assessing how your employees react to a staged phishing attack.

Security technology

No single cybersecurity technology can prevent phishing attacks. Instead, organizations must take a layered approach to reduce the number of attacks and lessen their impact when they do occur. Network security technologies that should be implemented include email and web security, malware protection, user behaviour monitoring, and access control.

Denial of Services (DoS): -

A **Denial-of-Service (DoS) attack** is an attack meant to shut down a machine or network, making it inaccessible to its intended users. DoS attacks accomplish this by flooding the target with traffic, or sending it information that triggers a crash. In both instances, the DoS attack deprives legitimate users (i.e. employees, members, or account holders) of the service or resource they expected. Victims of DoS attacks often target web servers of high-profile organizations such as banking, commerce, and media companies, or government and trade organizations.

Buffer overflow attacks –

the most common DoS attack. The concept is to send more traffic to a network address than the programmers have built the system to handle. It includes the attacks listed below, in addition to others that are designed to exploit bugs specific to certain applications or networks

ICMP flood –

leverages misconfigured network devices by sending spoofed packets that ping every computer on the targeted network, instead of just one specific machine. The network is then triggered to amplify the traffic. This attack is also known as the surf attack or ping of death.

SYN flood –

sends a request to connect to a server, but never completes the **handshake**. Continues until all open ports are saturated with requests and none are available for legitimate users to connect to. Other DoS attacks simply exploit vulnerabilities that cause the target system or service to crash. In these attacks, input is sent that takes advantage of bugs in the target that subsequently crash or severely destabilize the system, so that it can't be accessed or used.

An additional type of DoS attack is the **Distributed Denial of Service (DDoS) attack**. A DDoS attack occurs when multiple systems orchestrate a synchronized DoS attack to a single target. The essential difference is that instead of being attacked from one location, the target is attacked from many locations at once. The distribution of hosts that defines a DDoS provide the attacker multiple advantages:

- He can leverage the greater volume of machine to execute a seriously disruptive attack
The location of the attack is difficult to detect due to the random distribution of attacking systems (often worldwide)
- It is more difficult to shut down multiple machines than one
The true attacking party is very difficult to identify, as they are disguised behind systems
Modern security technologies have developed mechanisms to defend against most forms of DoS attacks, but due to the unique characteristics of DDoS, it is still regarded as an elevated threat and is of higher concern to organizations that fear being targeted by such an attack.

CONCLUSION:

The whole world is moving towards the enhancement of technology, and more and more digitisation of the real world processes, with this the risk of security increases. This paper described the working of malicious hackers or crackers on one hand who tries to illegally break into the security and on the other hand white hat hackers or ethical hackers, who tries to

maintain the security. As in the computer system, hacking plays a vital role as it deals with both sides of being good or bad. Further, this paper tells about the types, working, and various attacks performed by the hackers. In conclusion, it must be said that Ethical Hacking is a tool which when properly utilised can help in better understanding of the computer systems and improving the security techniques as well.

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Gas Leakage Detection with GPS navigation

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ABSTRACT

In this paper a Gas leak detection security system has been implemented for identifying gas leakage in closed environment. The leakage can be identified by using various sensors. However, many such cases can lead to a loss of properties and harm human life. The implementation of this approach is useful for many companies, house owners and car owners which can save lives. This can be also used as an application in chemical and hazardous industries where there is a continuous need of monitoring gas leaks. We can find the different types of gas leak with the help of different types of sensors. This system will be super-efficient for car or the persons who drives. Many times, such situation has occurred where people carelessly leave their children or pets locked inside their car which can result into death by suffocation due to harmful gas. This system will be useful here as it will detect such leaks and send an alert to three different personals which also includes fire department. Such leaks can cause a huge blast. This system will counter such incidents by sending the exact coordinates of the location to the emergency department and the owner of the vehicle.

Keywords: *Gas leak, Leak detection*

1. INTRODUCTION

LPG gas is a mostly used gas in the resident and urban sector as it is not costly and easily available. LPG gas can be used in the vehicles like car, rickshaw and at different service station. The gas is heavier than normal air and stay at the low-level and spread fastly in case leakage occurs. A continuous monitoring is required for the safety measures at industrial and residential areas. Sometimes, A gas leakage from cylinder may cause damage to the human life. LPG gas Sensors are used to overcome such problem in day-to-day life.

LITERATURE SURVEY

A monitoring system for gas leakage is important for the security of human being. Nowadays, wireless sensors network and integrated system have been widely used for detecting gas-leakage in present environment [1].

Somov A, Baranov A, Spirjakin D, et, al. used Wireless Sensor Networks (WSNs) along with catalytic gas sensors and ZigBee module implemented and used in many factories. Response under various scenarios are collected from catalytic gas sensors, and calculated result based on the Received Signal Strength Indicator and Link Quality Indicator metrics [2].

Jain P C, Kushwaha R identified various WSNs with semiconductor sensors and ZigBee module for residential areas like residents and industrial pipelines of oil and gas. Investigations are conducted to study the interaction between sensors and coordinator [3].

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PROBLEM STATEMENT

To avoid explosion due to gas leakage or death by suffocation from gas leakage. Improvised version of gas leak detector.

- Less effective and time consuming
- Cost is very high
- SMS alert can be ignored which can result into explosions

2. OBJECTIVE

The different gas sensors will be used for the detection of a dangerous gas leakage in various gas station, cars, storage tanks and homes. The circuit are built with sensor attached with alarm to give an alert to the operators through a buzzer sound in the region where the gas leak is occurring. This system also helps us to detect the different types of gases like cigarette smoke, toxic gases, combustible, LPG etc.

The main objectives of our proposed system are as follows:

1. Monitoring Gas leakage
2. Providing a sensor to detect various types of gas.
3. To detect harmful gas leaks and send an alert to respective personals which includes fire department
4. To raise knowledge about gas leakage and their consequences so that people can be careful in the future.

PROPOSED METHOD

The objective of the proposed system is to implement a smart automatic gas leakage detection system. It is specifically used for homes, offices, industries etc. The alert system will be installed at each floor of the buildings and used to identify the gas leakage also sensors are used for detecting leakage. The main idea is to design a low-cost system that will be easily manufactured and portable yet systematic gas leakage detection system that make sure security for households, offices and industries.

If the gas level crosses the threshold level, then user will receive the SMS through GSM. The system turns on the buzzer to notify the person nearby to the system and also at the same time Relay is turned on. As Arduino is having an inbuilt Analog to Digital converter system that is why need not to connect any external devices.

This system is benefits in cases when there are senior citizens, small children in house. Due to carelessness, there might be gas leakage which can lead to measure accidents. The system can avoid such incidents by sending an alert SMS to the house owner or by turning Buzzer at the same time

At the same time the user receives the coordinates of the location through sms alert so that it will be easy to track down the user if he is driving or at steady state.

This system will help user who accidentally leaves their children and pets locked inside their car.

The fire department or the emergency service provider will also receive this alert with GPS coordinates so that it will be easy to track down the spot.

If implemented correctly this system will extremely useful for companies, households or user who drives etc.

The systems consist of following components like:

1. **Arduino Nano**
2. **Micro Controller**
3. **Gas Sensor**
4. **Weight Sensor Display**
5. **GSM modem**

RESULTS and DISCUSSION

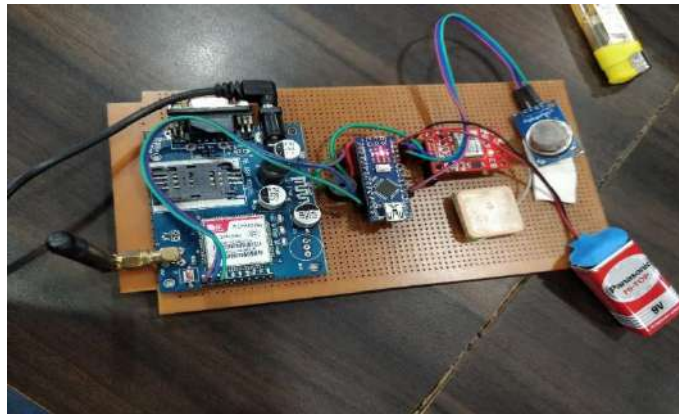


Figure 1: Arduino Nano

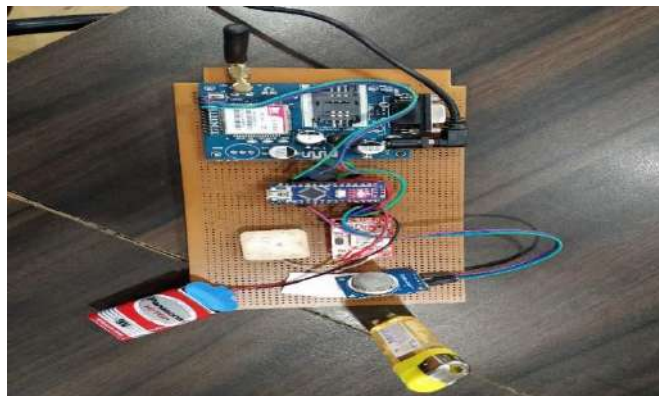
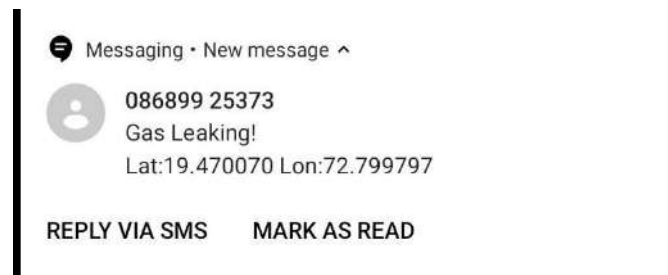


Figure 2: Circuit Diagram



With the help of this message user can be alerted about the gas leak and user can take necessary precautions to avoid it. With the help of GPS coordinates it will be easier to track down the location of the spot where gas leak occurred.

3. CONCLUSION & FUTURE WORK

Gas leakage leads to severe accidents which results in human loss and it occurs mainly due to bad maintenance of equipment's and less awareness of the people. The system plays an important role to prevent accidents and to save human lives. The system is simple and reliable.

Advantages of this system:

- If there is any gas leakage it will be detected automatically and will avoid accidents
- People and companies will be aware about the gas leakage advantages and disadvantages.
- Real time notification of gas leakage and location through SMS.
- Security system will boost up and people be aware about the consequences.

The current system can be further enhanced by making the use of Bluetooth instead of GSM which can be used to send the alert messages to user. Robot can also be used for detecting multiple gas concentrations. Along with this temperature sensor can be used for identifying high pressure gas in cylinder pipe and if temperature is reached at high level, it will generate an alert message to inform peoples.

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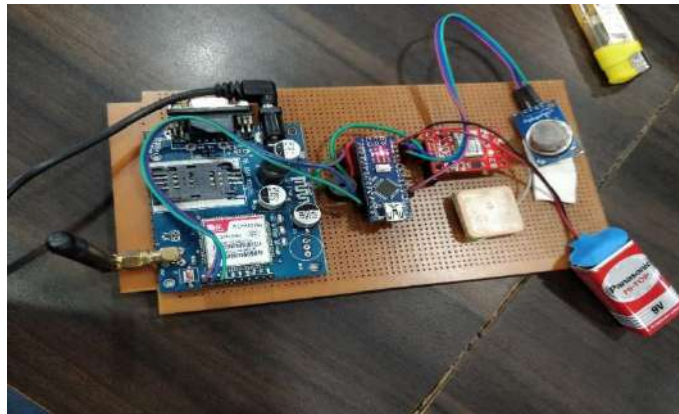


Figure 1: Arduino Nano

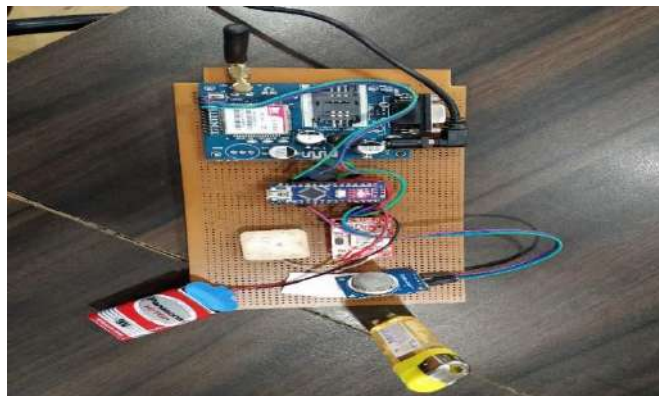
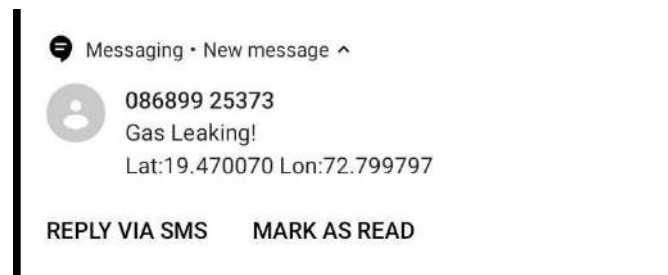


Figure 2: Circuit Diagram



With the help of this message user can be alerted about the gas leak and user can take necessary precautions to avoid it. With the help of GPS coordinates it will be easier to track down the location of the spot where gas leak occurred.

3. CONCLUSION & FUTURE WORK

Gas leakage leads to severe accidents which results in human loss and it occurs mainly due to bad maintenance of equipment's and less awareness of the people. The system plays an important role to prevent accidents and to save human lives. The system is simple and reliable.

Advantages of this system:

- If there is any gas leakage it will be detected automatically and will avoid accidents
- People and companies will be aware about the gas leakage advantages and disadvantages.
- Real time notification of gas leakage and location through SMS.
- Security system will boost up and people be aware about the consequences.

The current system can be further enhanced by making the use of Bluetooth instead of GSM which can be used to send the alert messages to user. Robot can also be used for detecting multiple gas concentrations. Along with this temperature sensor can be used for identifying high pressure gas in cylinder pipe and if temperature is reached at high level, it will generate an alert message to inform peoples.

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Non-invasive Glucometers-Painless way for regular tracking of blood glucose

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ABSTRACT

In today's stressful life in which maintaining a healthy lifestyle is a big challenge as well as necessity, a disease like Diabetes has become one of the health concerns around the globe. Keeping the healthy blood glucose levels is beneficial for the prevention of diabetes. This requires regular monitoring of blood glucose. The conventional method used for glucose monitoring is painful as it involves finger pricking and testing the collected blood samples. This may also cause infection if the needle used for pricking is not sterilized or if it is used one. These factors may cause fear in the patients and hence resulting into reluctance in monitoring the blood glucose. This paper deals with the various technologies used for non-invasive monitoring of the blood glucose

Keywords: Non-invasive, spectroscopy, iontophoresis, diabetes, metabolic

1. INTRODUCTION

1.1 BACKGROUND-

As per the International Diabetes Federation, there are 463 million adults worldwide with diabetes. The total number of people with diabetes is predicted to rise by approximately 50% in next 20 years. As per the survey carried out by World Health Organization, diabetes is one of the leading causes of death across the world.

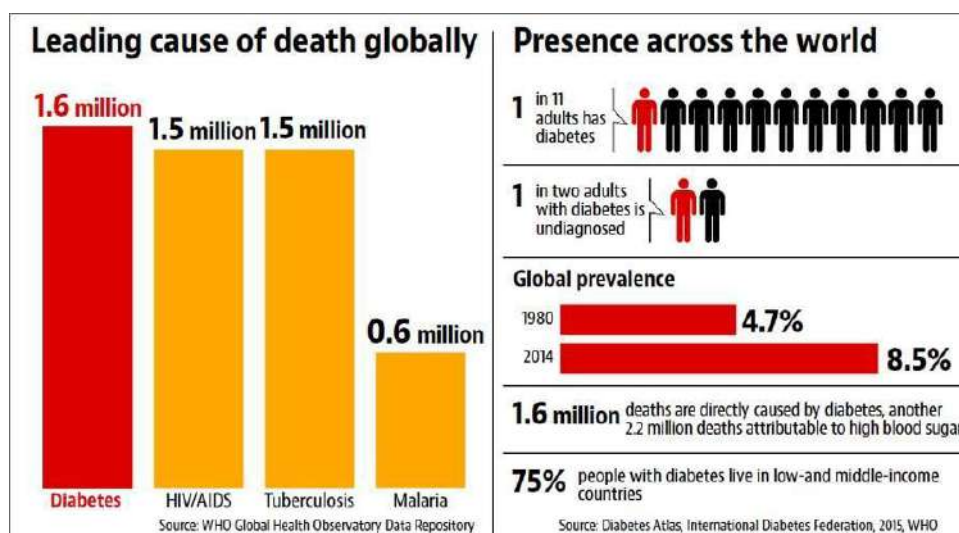


Fig.1 Diabetes Survey

There are certain consequences of diabetes such as over the time diabetes can cause heart conditions. It can also cause damage of blood vessels, vision, kidneys, and nervous system.

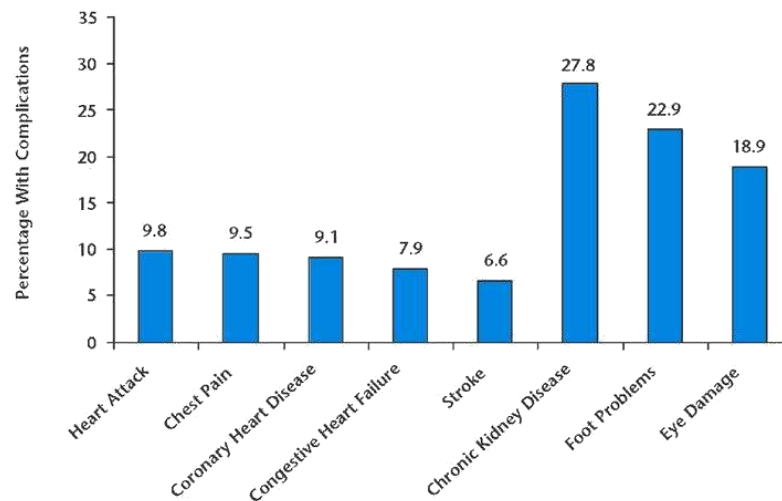


Fig.2 Diabetes Related Complications

To prevent these complications in future, diabetes patients need to monitor their blood sugar level regularly. This regular monitoring can help patients and their doctors to decide the dose of medicines, diet, exercise routine, etc., which in turn will minimize the risk of complications mentioned above.

1.2 SELF-MONITORING OF BLOOD GLUCOSE (SMBG)

Self-Monitoring of Blood Glucose (SMBG) means diabetes patients measure their blood sugar level themselves using a glucometer. This SMBG approach can be followed by patients to monitor their degree of diabetes on a regular basis.

As per the American Diabetes Association, the table below indicates how frequently one should monitor the Blood Glucose levels [4].

Situation	Recommended self-monitoring times and frequency
Patients taking daily insulin injections or insulin pumps	At least 3 times daily (Before meal, after meal, before Bedtime).
Patients with type 2 diabetes taking insulin secretagogues.	Twice in a week.
Newly diagnosed with type 2 diabetes	At least 1 time a day (to check effects of various meals and medication)
Patients with type 2 diabetes taking antidiabetic medication with no hypoglycaemia or lifestyle risks.	Once in week or two weeks

Even though it is necessary to monitor the blood sugar levels frequently to enhance the self-care, people are quite hesitant about SMBG. There are certain reasons behind that such as

- the cost of test strips and needles which are used for the test
- frustration of getting high blood glucose reading
- fear of needles, fear of frequent skin pricking

- inconvenience to use the glucometer at workplace
- lack of self-efficacy and knowledge.

2. NON-INVASIVE GLUCOMETERS

NIR Spectroscopy says that the correlation between the photodiode output voltage and the glucose concentration is directly proportional to each other. So, by using Polynomial Regression we can predict the glucose concentration value by passing the voltage value to the equation. Here we are using scilab software for the regression process. The initial voltage reading is derived by Multimeter.

To form a non-invasive glucose monitoring system, it is important to calibrate that system with the help of the conventional method of glucose monitoring. For that different known samples are taken into consideration. Voltage values from different known samples are compared with glucose level measured by conventional method of testing blood glucose. The method of regression is used in algorithm for calculating blood glucose level of unknown samples. In non-invasive methods to achieve the voltage value from samples different sensors can be used. Some of which are discussed in this paper.

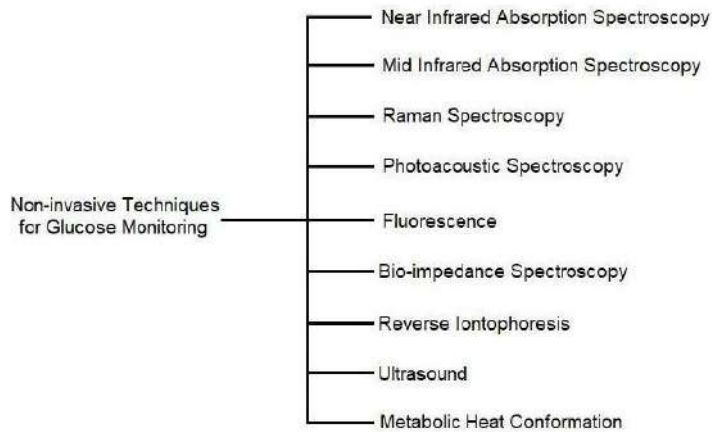


Fig.3 Different Non-invasive Techniques for glucose monitoring

1. Near Infrared absorption spectroscopy:

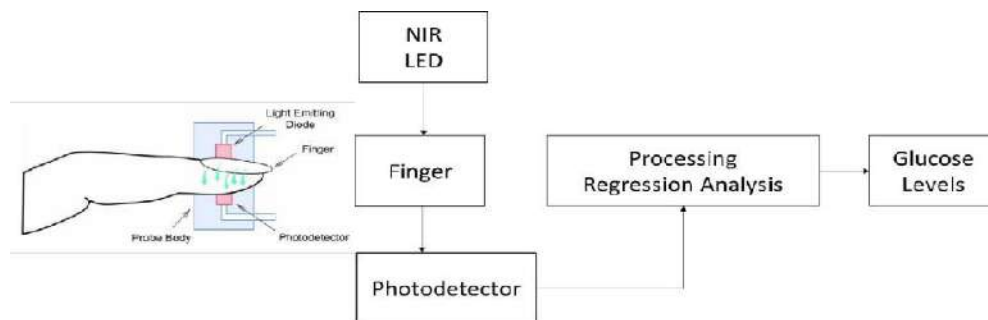


Fig.4 Near Infrared Absorption Spectroscopy for glucose monitoring

Near-infrared region of the electromagnetic spectrum has a wavelength from 780 nm to 2500 nm. In general, IR rays passing through a liquid sample are absorbed by a compound to be tested, and samples are identified based on difference in their absorbing capacity. It is based on collecting absorption spectra of the tissue with a spectrophotometer. The IR light is focused on the body which then gets partially scattered and absorbed. Tissue properties and characteristics are then measured by light attenuation resulting from absorbance and scattering properties. Changes in the absorption

corresponding to water displacement or difference in its intrinsic absorption change the glucose concentration, which in turn changes the measured absorption coefficient. The intensity of light which is scattered by the tissue is also affected by changes in glucose concentration. In order to check glucose level by NIR spectroscopy, the best site is forearm skin, earlobe, cheeks, tongue and nasal septum or lip mucosa.

2. Mid Infrared absorption spectroscopy:

Mid Infrared spectrum has a wavelength in the range of 2500-10,000nm. This wavelength is longer than NIR. It results in less scattering and more absorption. The penetration length of MIR light is up to 100µm in human skin. To overcome this limited light penetration problem because of the large absorption coefficient, a method called attenuated total reflection (ATR) is used. In this method, a flexible hollow infrared optical fiber with a diamond (ATR) prism is used.

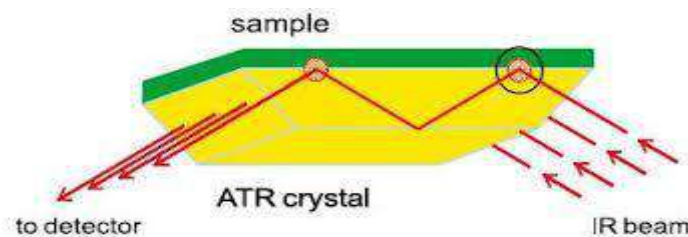


Fig.5 Mid Infrared Absorption Spectroscopy

In this method, glucose level is expected to be measured in oral mucosa with high precision because of following reasons-

- Optical fibers are non-toxic
- Mechanical and chemical stability of fiber and ATR prism
- Flexibility

Glucose concentration is then predicted with data processing technique such as partial least square regression. One should have a test on finger or oral mucosa to get best results using MIR spectroscopy.

3. Raman Spectroscopy:

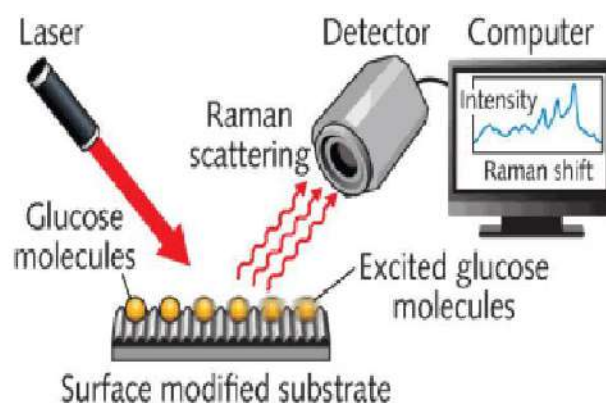


Fig.6 RAMAN Spectroscopy for glucose monitoring

The phenomenon where a very small portion of scattered light shows wavelengths dissimilar from that of the exciting laser beam is known as the Raman Effect. The detection method is based on Raman effect, i.e. the inelastic scattering of monochromatic light. Inelastic scattering means frequency of the photons is changed when it interacts with the sample/ human body. The frequency

of re-emitted photons is shifted-up or down with respect to original laser light, called Raman shift. This frequency shift gives information about molecular vibration in human fluids containing glucose. The scattered light from the human body is affected by molecular vibration. Because of this, glucose concentration in human fluids can be estimated. For Raman spectroscopy, the best site in the human body for glucose detection is Forearm.

4. Photoacoustic Spectroscopy:

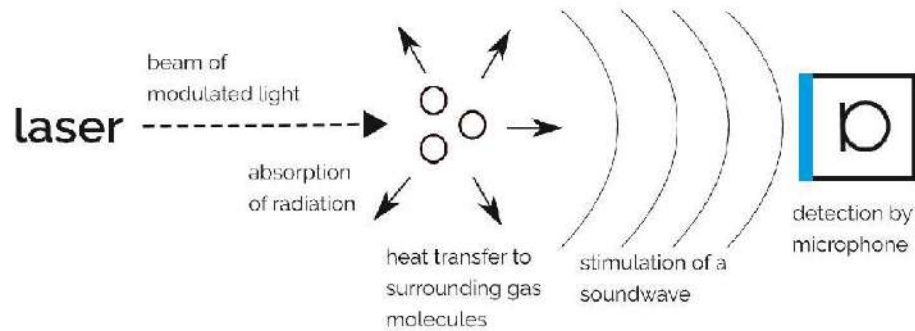


Fig.7 Concept of Photoacoustic Spectroscopy for glucose monitoring

In a photo-acoustic method, blood glucose is excited with laser pulses for very short period. light is absorbed by the PA cell in terms of its optical properties and stimulates subject's molecules. The absorbed energy is then released in the form of heat. Because of this phenomenon, volumetric expansion take place generating an acoustic wave. Piezoelectric transducer detects this acoustic wave and pass the data to controller. The data is then processed statistically to extract aa the changes in parameters. The measured acoustic wave provides information about the amount of glucose. With the amount of Glucose content, the amplitude of the sound waves changes. By measuring this change in peak-to-peak value, the glucose level is determined. To conclude, this detection method is based on conversion of optical energy to acoustic energy. To get the best results, it is recommended to have a test on forearm or finger.

5. Fluorescence:

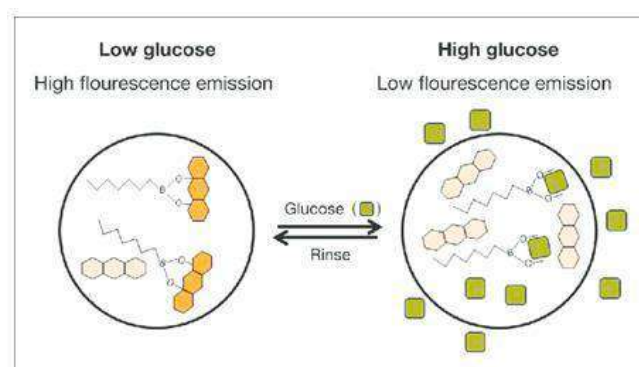


Fig.8 Florescence technique for glucose monitoring

When ultraviolet laser light of wavelength 380nm falls on human tissue, the fluorescence is generated by that tissue. The reflected light comprises of induced emission of light. This induced emission is due to the interactions between the glucose molecules in tissue fluid and the excitation light. The light reflected is detected by a sensor device. Depending upon the intensity of the light detected, glucose level in the blood is estimated. To estimate this glucose concentration in the sample

collected, partial least square regression statistical analysis is carried out. The flaw in this system is that the use of ultraviolet light on tissue could lead to strong scattering phenomena, in addition to fluorescence. Certain skin parameters, such as pigmentation, redness, epidermal thickness or blemishes can affect the result as it will change the fluorescence. Fluorescence based contact lenses have been developed for the detection of glucose concentration in tears. These disposable lenses are easy to use and are portable. With the change in concentration of the glucose, the colour of contact lenses also varies. These hydro-gel based soft lenses are safe to be used daily by diabetic patients.

6. Metabolic heat conformation:

The direct influence of glucose concentration with body temperature is already proved in 2010. The factors like metabolic heat, oxygen supply and concentration of glucose affect the homeostatic circadian rhythm of human body. Hence, glucose concentration can be measured by following the conceptual equation.

Glucose concentration = F (heat generated, blood flow, Hb, HbO₂)

Where Hb= hemoglobin and HbO₂= oxygenated haemoglobin

A thermopile detector inside the sensor is used to measure radiation temperature of the finger. While the blood flow rate is estimated by measuring temperature difference between thermistors during contact of finger with the sensor. The next step is to measure concentration of Hb and HbO₂ using diffuse reflectance spectroscopy. The glucose concentration is estimated by applying stepwise regressions and a calibration function is performed.

7. Bio-impedance Spectroscopy:

Bioelectrical impedance analysis has been used as a non-invasive technique for glucose monitoring. The ratio of an injecting current to a resulting measured voltage is calculated which will give the change in impedance. This impedance spectrum is used to estimate electrical properties of samples by using an equivalent electrical model of the material under study. The first study of non-invasive continuous glucose monitoring system involving impedance spectroscopy was published by Cardiff's group in 2003. Based on this theory, Pendragon has developed a wrist glucose monitor called Pendra. This device collects information of a LC resonance circuit in the range of 1 MHz to 200MHz, with the skin working as dielectric from the capacitor. One limitation of this research is that it requires an equilibration process, where the patient must rest for 60 min before starting measurement.

8. Reverse iontophoresis:

By applying a low-level electrical current, glucose can be extracted through the skin by electro-osmotic flow. 'Reverse iontophoresis' is a term used to describe this action. Reverse iontophoresis is sometimes labelled as a "minimally invasive" technology as it needs the access to a small amount of interstitial fluid underlying the skin. To check that, the circulation of a low-level electric current from anode to cathode located on skin surface is calculated. The primary current is produced by migration of sodium ions. It leads to cause a convective flow (electro-osmotic flow) of the interstitial fluid (ISF), which along with carries glucose molecules towards the cathode with it. The glucose sensor is placed at the cathode side to measure glucose level directly by enzymatic approach i.e., oxidization by an enzyme, such as glucose oxidase.

9. Ultrasound:

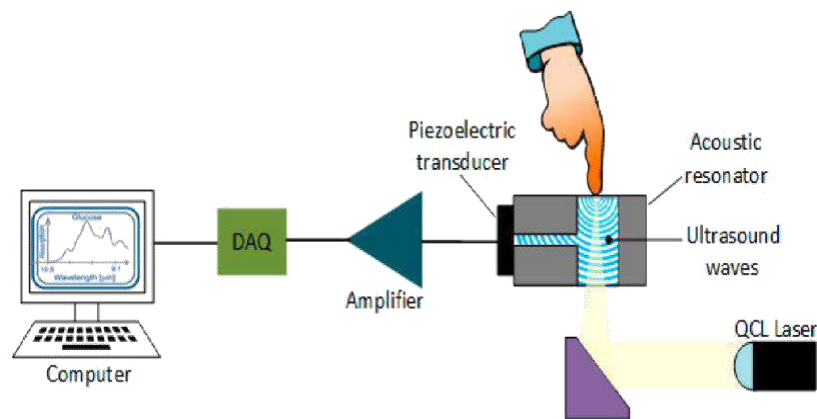


Fig.9 Ultrasound method for glucose monitoring

This technology measures the propagation time of ultrasound waves through the subject. The higher the glucose concentration, the faster the ultrasonic wave propagates through the media, hence reducing the time of propagation. The fluid or tissue has a certain degree of compressibility depending on the strength of intermolecular bonding forces and the density of the medium with the help of which the acoustic velocity of low-frequency waves through the media is estimated. Because of the change in linear impedance, the changes of the glucose concentration in the extracellular fluid affect density and adiabatic compressibility.

3. CONCLUSION

A lot of research has been done over the years to develop non-invasive techniques for monitoring of glucose. Our paper provides a comparative study of different techniques used till the date, and the principles of their application. The purpose of this paper is to suggest various non-invasive methods for measuring blood glucose concentration and such methods would be useful even for people without illness, addressing preventive care.

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Breast Cancer Risk Prediction System Using Machine Learning Model

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ABSTRACT

Breast cancer is the leading cause of cancer death in women, accounting for 16 percent of all cancer deaths worldwide. Owing to recent population growth in medical science, early detection of disease has become a critical issue. The risk of death from breast cancer is increasing rapidly as the world's population grows. Early diagnostics meaningfully increases the chances of correct treatment and survival, but this process is monotonous and often leads to a disagreement between pathologists. One of the best ways to fight cancer is timely detection, when it is still confined and can be fully removed surgically or treated pharmacologically. Computer-aided diagnosis systems presented the potential for improving diagnostic accuracy.

Keywords—breast cancer dataset, machine learning, Logistic Regression, prediction, IBM cloud

1. INTRODUCTION

Cancer is defined as the uncontrollable division of aberrant cells that destroy normal human tissue. Lung cancer, kidney cancer, breast cancer, bladder cancer, colorectal cancer, and many other types of cancer exist. Breast cancer is one of the most extensively prevalent diseases on the planet. Breast cancer is defined as the abnormal growth of breast cells in women, although it can also affect men. It is the most common malignancy among women, accounting for nearly 1 in 3 cancers diagnosed among women in the United States, and it is the second leading cause of cancer death among women. Breast cancer is caused by a combination of factors. Table 1 represents Several risk factors for breast cancer.

Non-modifiable risk factors	Modifiable risk factors	Environmental factors
1. Age 2. Sex 3. Genetic factors (5-7%) 4. Family history of breast cancer 5. History of previous	1. Menstrual 2. Reproductive factors 3. Radiation exposure 4. Hormone replacement therapy 5. Alcohol 6. High-fat diet	1. Organochlorine exposure, 2. Electromagnetic field 3. Smoking

breast cancer 6. Proliferative disease	breast	
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Breast Cancer occurs because of abnormal growth of cells in the breast tissue, commonly referred to as a Tumor. There are two types of tumors: benign and malignant. Benign tumors are non-cancerous and do not infiltrate or spread to other areas of the body, whereas malignant tumors are cancerous and can invade and kill neighboring tissue that spread to other parts of the body. When a malignant tumor (lump of tissue) develops in the breast, it is called breast cancer.

In this article, benign is represented by B, while malignant is represented by M. Doctors have a difficult and time-consuming process when diagnosing breast cancer in a patient at an early stage. However, by utilizing artificial intelligence, machine learning can assist in the effective and accurate prediction and detection of breast cancer. Machine learning allows a system to learn on its own and improve as it gains experience.

For prediction and accuracy computation, it employs a variety of algorithms. Breast cancer can be predicted using effective models such as logistic regression, SVC, KNN, decision tree, and random forest, which provide excellent accuracy. The highly effective model is evaluated using a 10-fold cross-validation test. The following parameters are used to validate the model: accuracy, RMSE Error, sensitivity, specificity, F-Measure, ROC Curve Area, and Kappa statistic, as well as the time it took to develop the model.

Author	Year of publication	Classifiers	Accuracy achieved
Aindrila Bhattacharjee, Payel Roy, Sourav Roy, Noreen Kausar, Sneha Paul, Nilanjan Dey	2016	Back Propagation Neural Network	99.27%
Hiba Asri, Hajar Mousanni, Hassan Al Moatassime, Thomas Noel	2016	Support Vector Machine	97.13%
Dada Emmanuel Gbenga, Ngene Christopher, Daramola Comfort Yetunde	2017	Support Vector Machine	97.07%
Vikas Chaurasia, Saurabh Pal, BB Tiwari	2018	Naive Bayes	97.36%

Jabeen Sultana, Abdul Khader Jilani	2018	Logistic Regression	97.18%
Farahnaz Sadough, Zahra Kazemy, Farahnaz Hamedan, Leila Owji, Meysam Rahmanikatigari, Tahere Talebi Azadboni	2018	Support Vector Machine	Ultrasound- 95.85%, Mammography- 93.069%, Thermography- 100%
Ricvan Dana Nindra, Teguh Aryandono, Lazuardi, Iwan Dwiprahasto	2018	Support Vector Machine	99.51%
R. Chtihakkannan, P. Kavitha, T. Mangayakarasi, R. Karthikeyan	2019	Deep Neural Network	96%
David A. Omondiagbe, Shanmugam Veeramani, Amandeep S. Sidhu [9]	2019	Support Vector Machine	98.82%
Anji Reddy Vaka, Badal Soni, Sudheer Reddy K. [10]	2020	Deep Neural Network with support value	97.21%

TABLE 2: Summary of Literature survey

2. METHODOLOGY

A. Dataset and Pre-processing

The breast cancer dataset has been retrieved from UCI machine learning. There are 569 occurrences this dataset, where the cases are moreover benign or malignant. For such cases, 357 (%) are benign, and 212 (%) are malignant. The class in the dataset is partitioned as B or M, wherever B corresponds to the benign case, and M corresponds to the malignant case.

The attributes entail in the dataset which is in the figure below eliminating sample code number and class level. The benign cases are identified as a positive class, and the malignant cases are recognized as a negative class in our investigate.

	A	B	C
1	id	area_se	
2	diagnosis	smoothness_se	
3	radius_mean	compactness_se	
4	texture_mean	concavity_se	
5	perimeter_mean	concave points_se	
6	area_mean	symmetry_se	
7	smoothness_mean	fractal_dimension_se	
8	compactness_mean	radius_worst	
9	concavity_mean	texture_worst	
10	concave points_mean	perimeter_worst	
11	symmetry_mean	area_worst	
12	fractal_dimension_mean	smoothness_worst	
13	radius_se	compactness_worst	
14	texture_se	concavity_worst	
15	perimeter_se	concave points_worst	
16	symmetry_worst	fractal_dimension_worst	
17			

Figure1: Attributes of the dataset

Data Preprocessing:

Data preprocessing is used to complement absent values, identify, or remove outliers, and solve self-contradiction. There are 16 absent values of traits present in the dataset. Furthermore, the dataset is working on random selection to confirm the proper circulation of the data. Training and Testing Phase The training phase extracts the structures from the dataset and the testing phase is used to calculate how the appropriate model performs for prediction. The dataset is divided into two sections. These are the training and testing phase.

K fold cross-validation portrays that a single fold is utilized for testing and $k - 1$ folds are being used training circularly. Cross-validation is used for escaping of overfitting.

B. Machine Intelligence Libraries:

LGBM classifier: Light Gradient Boosted Machine is a real and efficient way of gradient boosting algorithm. LightGBM extends the gradient boosting algorithm by adding a type of reflex feature selection as well as concentrating on boosting samples with bigger gradients. This can result in a dramatic speedup of training and improved predictive presentation. Light GBM grows tree vertically while other algorithm produces trees horizontally meaning that Light GBM grows tree leaf-wise while the other algorithm grows level-wise. It will select the leaf with max delta loss to grow. When growing the same leaf, Leaf-wise algorithm can reduce more loss than a level-wise algorithm.

Random Forest Classifier: It is a supervised learning growth that consists of many individual decision trees that operate. Each individual tree in the random forest spitting out class prediction and the class with the most votes become our model's prediction. One big advantage of random forest is that it can be used for both classification and regression problems, which form many current machine

learning systems.

Hyperparameter optimization: Hyperparameters have dissimilar parameter values that are used to control the learning process and have a substantial effect on the presentation of machine learning models. An example of hyperparameters in the Random Forest algorithm is the number of estimators (`n_estimators`), maximum depth (`max_depth`), and principle. These factors are tunable and can have a direct impact on how well a model train. So, then hyperparameter optimization is the whole process of finding the right mix of hyperparameter values to achieve the highest performance on the data in a reasonable amount of time.

Feature Engineering:

Feature engineering is about making new input features from your existing ones. In general, you can presume of data cleaning as a process of subtraction and feature engineering as an extra process. This is often one of the most valued tasks a data scientist can do to raise model performance, for several reasons:

1. You can separate and highlight key information, which improves your algorithms "focus" on what's important.
2. You can bring into your own domain expertise.
3. Most important thing is, once you understand the "vocabulary" of feature engineering, you can bring in someone else's domain expertise!

Node-Red:

Node-RED is a visual tool for connecting the Internet of Things. It used to connect devices, data and API's. It can also be used for other kinds of applications to quickly assemble the streams of services. Node-RED is accessible as open source and has been applied by the IBM Emerging Technologies for the association. Node-RED provides a browser-based flow editor that makes it easy to wire together flows using the wide spectrum of nodes in the palette. Flows can be then deployed to the runtime in one single-click. Whilst Node-Red is built on Node.js, JavaScript functions can be prepared within the editor using a rich text editor. A built-in collection that enables you to save useful functions, templates or flows for re-use.

C. Method used:

IBM Watson is an emerging and user-friendly tool for solving issues related to healthcare or any scope of human intent. It gives a learner free space to experiment using various artificial problem and classifiers which help to evaluate the accuracy.

Here a cloud account is used to create a service that allocates resource for conducting the experiment. Further it allows to upload the csv file which is loaded to generate the algorithm. Here the rule of training and testing must be mentioned also this is the phase which determines which classifier as well as hyperparameters to be used for giving various accuracies an algorithm can generate depending on the trails and the pipelines used.

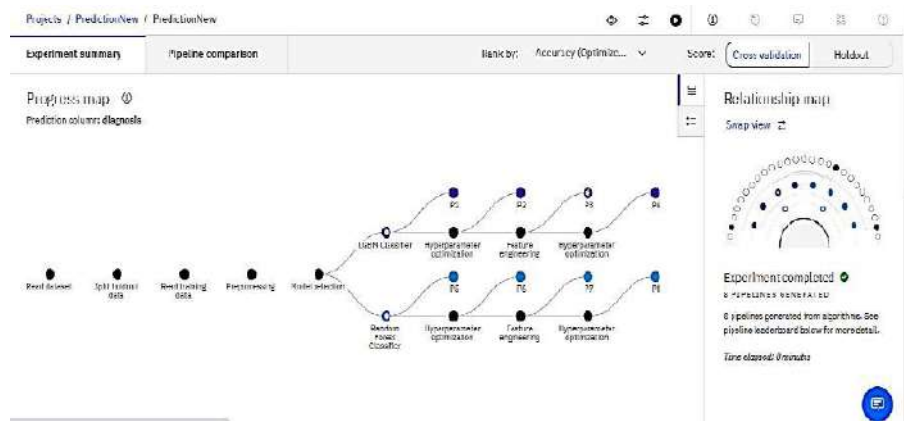


Figure2: Pipeline generation

Rank	Name	Algorithm	Accuracy (Optimized)	Enhancements	Runtime
1	Pipeline 5	LSTM Classifier	0.932	HPO-1, FE	00:00:57
2	Pipeline 4	LSTM Classifier	0.932	HPO-1, FE, HPO-2	00:01:12
3	Pipeline 8	Random Forest Classifier	0.930	HPO-2, FE, HPO-2	00:00:41
4	Pipeline 2	LSTM Classifier	0.928	None	00:00:74
5	Pipeline 6	Random Forest Classifier	0.926	HPO-1	00:00:20
6	Pipeline 7	Random Forest Classifier	0.926	HPO-1, FE	00:00:11
7	Pipeline 1	LSTM Classifier	0.912	None	00:00:01
8	Pipeline 3	Random Forest Classifier	0.912	None	00:00:05

Figure 3: Accuracy Summary

Every pipeline is associated with an accuracy as well as the enhancements done from one phase to another. It also delivers the time required to build the individual phase and complete algorithm. As this is concerned with algorithm further, we look for creating a interface which accepts value from the user for which NodeRed tool is utilized which creates a visual flow from data acceptance, preprocessing, optimization and output. It makes use of the javascript API key which is generated towards the allocation of the resources.

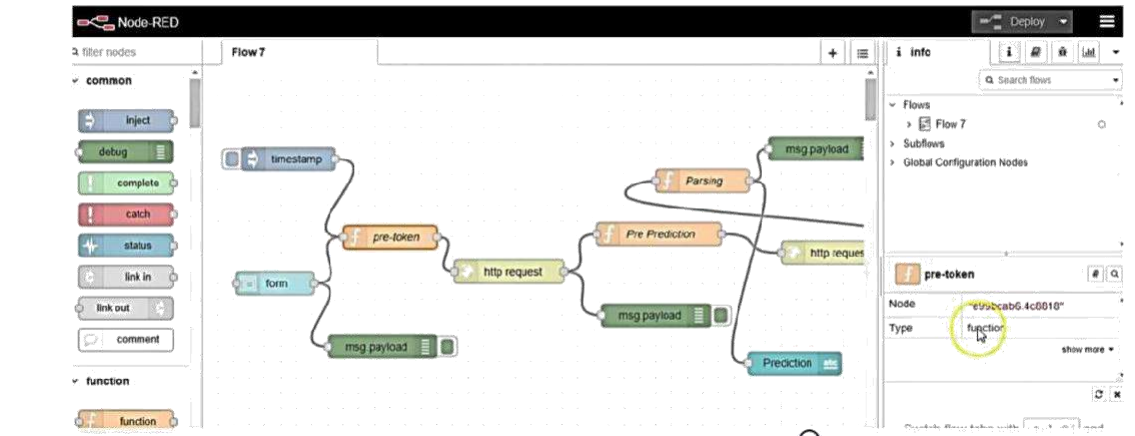


Figure 4: Node-RED interface

C. Method used:

IBM Watson is an emerging and user-friendly tool for solving issues related to healthcare or any scope of human intent. It gives a learner free space to experiment using various artificial problem and classifiers which help to evaluate the accuracy.

Here a cloud account is used to create a service that allocates resource for conducting the experiment. Further it allows to upload the csv file which is loaded to generate the algorithm. Here the rule of training and testing must be mentioned also this is the phase which determines which classifier as well as hyperparameters to be used for giving various accuracies an algorithm can generate depending on the trails and the pipelines used.

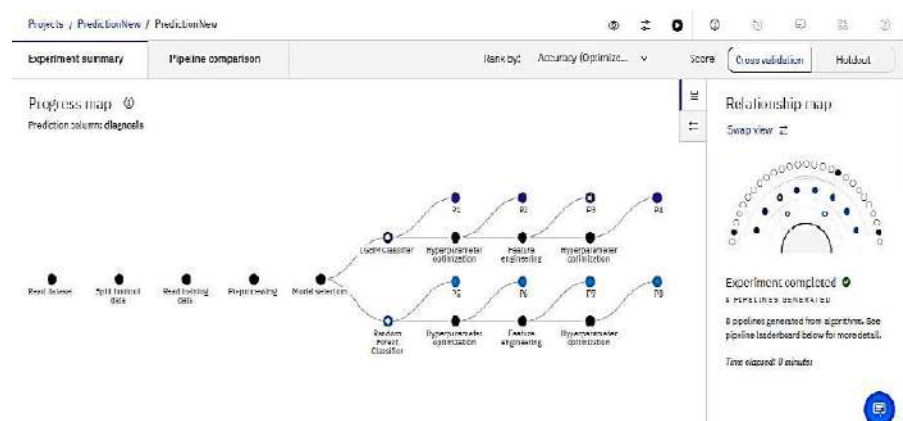


Figure2: Pipeline generation

Experiment summary		Pipeline comparison		Rank by: Accuracy (Optimized)	Score: Once utilization	Holdout
Rank	Name	Algorithm	Accuracy (Optimized)	Enhancements	Build time	
★ 1	Pipeline 3	LRM Classifier	0.932	HPO-1 (T)	00:00:57	
2	Pipeline 4	LGJM Classifier	0.932	HPO-1 FE HPO-2	00:01:21	Save as
3	Pipeline 8	RandomForest Classifier	0.930	HPO-1 FE HPO-2	00:00:41	
4	Pipeline 7	LRM Classifier	0.928	HPO-1	00:00:24	
5	Pipeline 6	Random Forest Classifier	0.926	HPO-1	00:00:20	
6	Pipeline 7	Random Forest Classifier	0.926	HPO-1 FE	00:01:11	
7	Pipeline 1	LGJM Classifier	0.912	None	00:00:01	
8	Pipeline 5	Random Forest Classifier	0.912	None	00:00:05	

Figure 3: Accuracy Summary

Every pipeline is associated with an accuracy as well as the enhancements done from one phase to another. It also delivers the time required to build the individual phase and complete algorithm. As this is concerned with algorithm further, we look for creating an interface which accepts value from the user for which NodeRed tool is utilized which creates a visual flow from data acceptance, preprocessing, optimization and output. It makes use of the javascript API key which is generated towards the allocation of the resources.

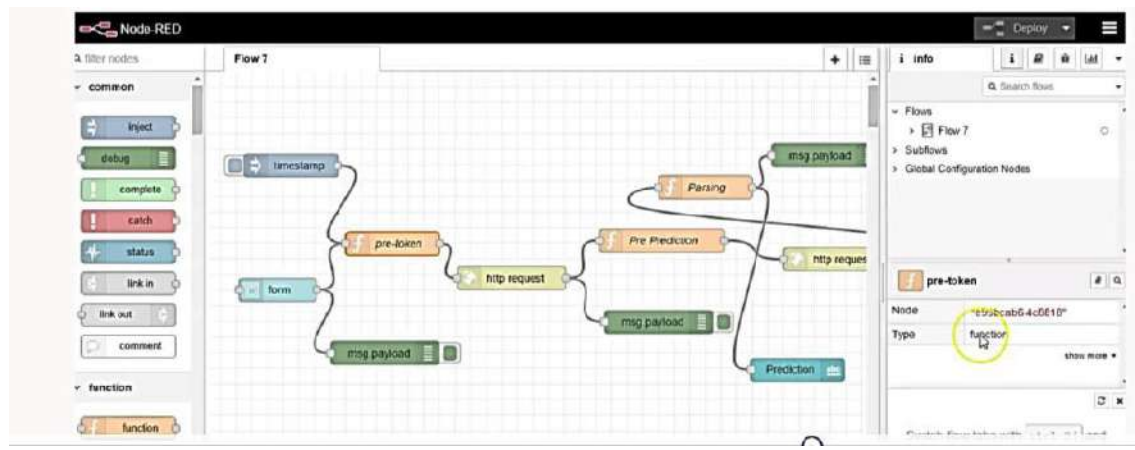


Figure 4: Node-RED interface

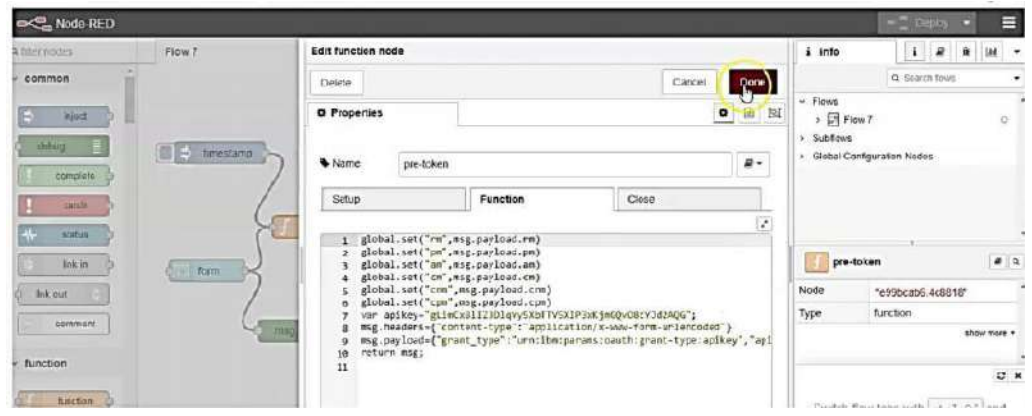


Figure 5: API Key making this a unique project.

3. RESULTS AND DISCUSSION

Breast cancer is an issue that affects many women worldwide, which has generated great interest in the scientific field to take advantage of technological developments and thus create intelligent tools or methods that allow diagnosis or prevention of successful form of said disease. Data mining is a discipline in constant development, through this many solutions must be generated for the analysis of different diseases that society suffers worldwide.

Considering the results, the levels of accuracy achieved are not the best since random forest only reached a 92.6% level of accuracy, followed LGBM with 93.2%,

The algorithm has the capability to predict the accuracy of 93%. It is also capable to show the prediction of benign and malignant cases.

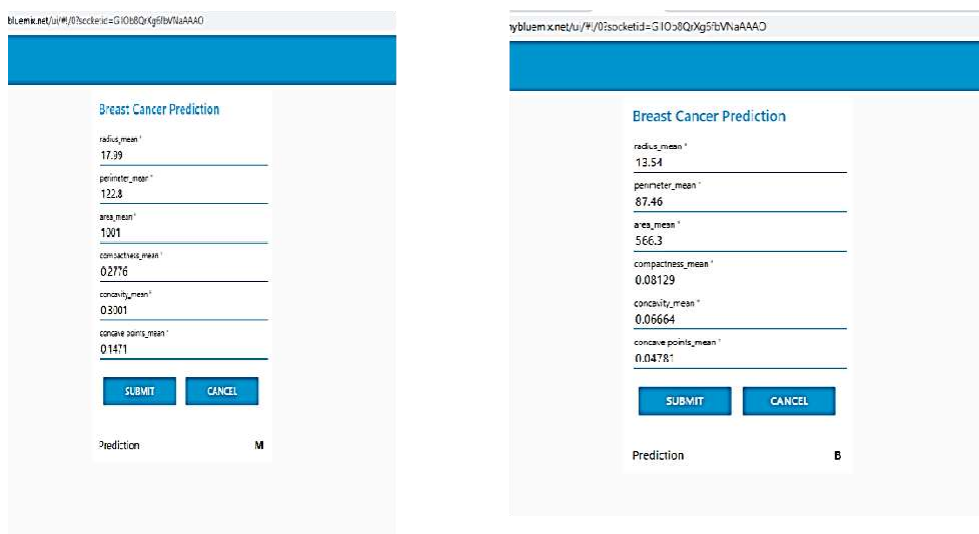


Figure 6: Results for both cases of cancer

4. CONCLUSION

Machine learning is a simple and effective technique to forecast the type of tumor a patient is suffering from, especially as the number of women diagnosed with breast cancer continues to rise. We need to forecast which cancer class a patient will be assigned by extracting hidden information from various parameters that may be used to improve overall performance using the best available technologies.

5. ACKNOWLEDGMENT

We would like to express our gratitude to IBM for providing IBM cloud and giving us the opportunity to work on it.

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ETHICAL HACKING & SECURITY AGAINST CYBER CRIME

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ABSTRACT:

This paper is based on the rapidly spreading cyber world and its components on the Internet. The advanced development of the Internet has led to a massive change in modern society in the form of ecommerce, e-mail, cloud computing, online transactions, advertisements, data sharing, vast repositories of reference material, etc., but there is another called Internet. The chapter of the book, which is not so commendable, has become a common and easy tool for criminal activity using the Internet weak links and many criminal activities have taken place in the Internet. In this paper I have focused on many hacking activities that come under cybercrime. The paper also illustrates the role of the ethical hacker in drawing on proactive approaches to expel criminals and cybercrime and to reduce the risk of hacking and cybercrime.

Keywords: Hacking, Security, Cybercrime, Moral, Threat, Vulnerability

INTRODUCTION:

• Hacking:

Hacking is the act of identifying weaknesses of a handset or computer system or network and exploiting its weaknesses to gain access. Such as using a password cracking algorithm to access the system. Hacking generally refers to unauthorized access to a computer or network. A person involved in hacking activities is known as a hacker. And the hacker may change the system or security features to accomplish a goal that differs from the original purpose of the system and may be harmful to the authorized user of the system.

Hacking divided into two parts:

- 1. Ethical hacking**
- 2. Unethical Hacking**

1. Ethical Hacking:

Ethical hacking skills that are good for the organization done on behalf of the company Ethical hackers are legal hackers who work to detect loopholes in terms of security. Where unethical hacking is taken to harm or harm the company. Hackers are classified as white hackers or black hackers based on the type of hacking.

2. Immoral Hacking

Unethical hack is that which is done without the target of the hack, not aware of it. This is often done to penetrate network systems to steal information or money, and sometimes to harm by inserting virus or malware programs. Unethical hacking is against the law, and those who engage in this act are considered cyber criminals.

"Security is a state of information and infrastructure strengthening in which the possibility of successful theft, tempering, disintegration of information and services is less tolerable."

Network security:

Network security is a security act given to a network that provides protection from unauthorized access and risks. It is the duty of network administrators to protect their networks from potential security threats by adopting preventive measures.

Information security:

Information security is an incident protecting the privacy, integrity, and availability of unauthorized user's malicious intent on computer system data

Here is a list of security services issues:

- Privacy
- Authentication
- integrity
- No Counter-Notification
- Access control
- Availability
- Authority

Types of hammers:

These criminals or hackers are usually educated people like engineers, doctors, MBA students etc. who try to gain access to other's system. Here are:

- a. Script Kids: Script Kids are non-technical expertise and hack weakly secure systems. They cannot seriously harm the victim.
- b. Scammers: Scammers send fake mail like fraudulent reward (lottery), discount pharmaceuticals etc. to the targeted victim, by which they reach the victim's system and corrupt it.
- c. Hacker Group: They work anonymously and hack the system without any criminal reason. They are basically hired by government agencies, organizations, etc. to check security and handle fraud cases.
- d. Fishers: They request confidential information on the network under false pretences to obtain fraudulent credit card details, passwords and other personal information. Phishing is done by mail spoofing and directs users to obtain details on a fraudulent website that is almost identical to legitimate.
- e. Political / Religious / Commercial Groups: Hackers of this type develop malicious threats or malice to eliminate political concerns and have no interest in any type of financial gain. They try to access confidential information of opposing groups.
- f. Insider: These attackers are very dangerous because they remain in the organization. By residing in the organization, they gain complete knowledge and description of the organization and easily corrupt the system attack and damage the security of the company.
- g. Yes. Advanced Persistent Threat (APT) agent: It is responsible for highly targeted attacks, which are carried out by well-organized and state-sponsored groups. They have high technical skills and have access to vast computing resources.
- h. White Hate Hackers: They are ethical hackers who basically focus on securing and protecting IT systems. White hat hackers are those who try to break a network or system to help the holder of the system to make them aware of security flaws. Many such people are employed by companies regarding computer security; These are professional sneakers.

HACKING PHASES:

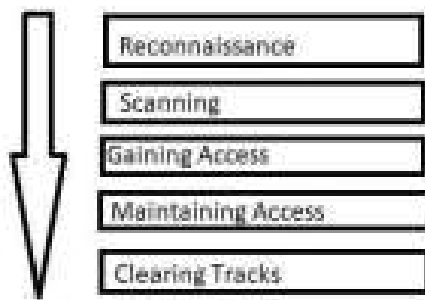


Figure 1 Hacking steps

Reconnaissance: This is the first step of hacking. It is also known as foot printing and information gathering phase. This is the initial stage where we gather more and more information about the target. We usually collect information about three groups, there are two types of foot printing: active: interacting with the target to gather information about the target directly.

Passive: Trying to collect information about a goal without reaching the target directly.

Scanning: This refers to scanning for all open and closed ports.

Why Ethical Hacking Needed

So what is the need for ethical hacking now? Okay, if we start thinking like a thief, we can know better about weak locks and how to break them. Meaning, until and unless we know about vulnerabilities or flaws in our system or an organization, how will we find a better and yet effective patch for them. Hackers have simply "hack value" in their minds that refers to the things they have gained during their practice.

- There are concrete reasons that I have found to require ethical hacking.
- Pre-discovering flaws or flaws in the system before committing hackers.
- Implementing the defence in depth perception by performing extreme penetration tests.
- Combat attacks by predicting technology.

What is cyber security?

Cyber security is a potential activity by which information and other communication systems are protected and / or prevented from unauthorized use or modification or exploitation or even theft. Similarly, cyber security is a well-designed technology to protect computers, networks, various programs, personal data, etc. from unauthorized access.

All types of data whether government, corporate, or personal require high security; However, some data, which are related to government defence systems, banks, defence research and development organizations, etc., are highly confidential and even the slightest negligence of these data can cause great harm to the entire nation.

Therefore, such data requires protection at a very high level.

CYBER Security Challenges:

A. Data breaches - large amounts of data are stored on cloud servers so it becomes an easy target for attackers to control unauthorized and sensitive data. Cloud providers deploy security controls to protect their environments, but organizations are ultimately responsible for protecting their data in the cloud.

B. Compiled Authentication and Broken Authentication - Data breaches and other attacks often result in weak passwords and poor key or certificate management.

C. Hack interfaces and APIs - APIs and interfaces are one of the most exposed systems because they are usually accessible from the open Internet. Risks are increased due to weak interfaces and APIs that expose organizations to security issues related to privacy, integrity, availability, and accountability.

D. System weaknesses - System vulnerabilities have become a major problem due to the widespread use of cloud computing. Organizations share memory, databases, and other resources with each other, creating new attack platforms.

E. Account hijacking - Phishing, fraud, software exploits have become very common now due to the fact that information is stored in cloud storage and attackers can spy on activities, manipulate transactions and modify data.

F. Malicious Insider - In a cloud scenario, an insider can destroy entire infrastructure or manipulate data systems that rely solely on the cloud service provider for security, such as encryption, as the biggest risk.

Yes. Permanent data loss - Permanent data loss due to provider error has become extremely rare but malicious hackers have been known to permanently delete cloud data in order to harm businesses.

H. Shared Technology, Shared Hazards -. Cloud service providers share infrastructure, platforms, and applications, and if vulnerability arises in any of these layers, it affects everyone

What is Cybercrime?

A crime involving and using computer devices and the Internet is known as cybercrime. Cybercrimes can be committed against an individual or group; It can also be committed against government and private organizations. Its purpose may be to damage one's reputation, physical damage or mental harm. Cybercrime can be the cause of direct harm or indirect harm to whoever is the victim. However, the greatest threat of cybercrime is on the financial security of an individual as well as the government. Every year billions of US dollars are lost from cybercrime.

Types of Cybercrime

- A. Hacking: It is an illegal practice by which a hacker breaches someone's computer security system for personal interest.
- B. Unwanted Mass-Surveillance: Mass surveillance means the monitoring of a large part of a group of people by the authority, especially for security purpose, but if someone does it for private interest, it is considered a cybercrime.
- C. Child pornography: It is one of the most heinous crimes worldwide. Children are sexually abused, and videos are being made and uploaded on the Internet.
- D. Child grooming: It is a practice to establish an emotional connection with a child, especially for the purpose of child trafficking and child prostitution.
- E. Copyright infringement: If someone infringes on someone's protected copyright and publishes it in their own name, it is known as copyright infringement.
- F. Money laundering: The illegal possession of money by an individual or organization is known as money laundering. This usually involves the transfer of funds through foreign banks and / or legitimate business. In other words, it is a practice to convert illegally earned money into a legitimate financial system.
- G. Yes. Cyber-extension: When a hacker hacks someone's email server, or computer system, and asks for money to reinstall the system, it is known as cyber-extension.
- H. Cyber-terrorism: Generally, when a person hacks the government's security system or threatens the government or such a large organization to advance its political or social objectives by invading the security system through a computer network, this is known as cyber-terrorism.

How to stop crime?

- Use strong passwords:

- Your social media is a personal account:
- Protect your mobile devices:
- Protect your data:
- Protect your identity online:
- Keep your computer running with the latest patches and updates:
- Protect your computer with security software:

OPPORTUNITIES AND CHALLENGES:

Ethical hacking, also known as Internet security, is very different from traditional security. Internet security is more on an active basis than traditional security. While traditional security is based on catching criminals, Internet security consists of ethical hackers who try to hack a company / organization before an 'attack' so that they are able to find any weak links. Ethical hackers are hired by companies to hack their own company and are able to identify any loopholes where an ill-intentioned hacker may be harmed so that the company can endanger their security and to cover the crack. They use their creativity and skills to make the Internet world of a company a fool proof and safe place for both owners and customers. These 'cyber police' prevent cybercrimes and protect cyberspace.

The ethical hack itself gives the customer some risk:

A criminal hacker who monitors the transmission of an ethical hacker can trap information.

CONCLUSION:

Internet is serving modern society in many ways. But it has many security violations. These may be security violations Abuse of black hat for derogatory purpose. Therefore, it is mandatory to determine the weak points of the information system. There are various tools such as firewalls, gateways, IPsec, DMZ, network auditing, etc. that evaluate breaches and mitigate them using tools and take proactive action against them to prevent disaster. Some of our precautionary and proactive action can end dangerous and cybercrime.

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Phase 1 Result:



Result:



PHOTOGRAPHY IN DIGITAL TECHNOLOGY AND NEW AGE

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ABSTRACT:

The photographer's app aims to bring all the photographers together and keep them updated to the latest trends. This app act as a bridge between the photographers and the people who is looking for photographers for their projects/events. This app fulfils all the basic needs of photographer's right from if they want to shop some equipment or to share their work to other people creates a competitive world, so this app is ideal place for photographer's community So the idea is to let the clients get in touch with the photographers and even if they aren't available they'll have many other photographers available for them with the camera required.

It's not only the photography part but even for videography and cinematography. This place if going to help each one of them grow in their respective interest and it's going to be very convenient and easy to use for the clients and also for the photographers.

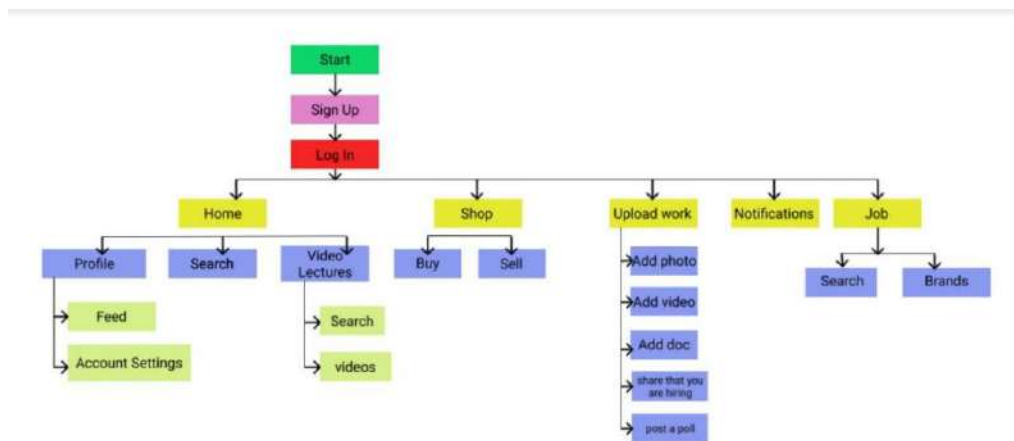
INTRODUCTION:

Photographer's app is a virtual platform for people to enhance their photography skills, to get photography equipment and stay in touch with latest photography trends. It is also an ideal app for looking for photographers for events and brand collaborations.

Photography app is easy to use, everyone right from the beginner to professional can take advantage of the app features to enhance their skills and get inspiration from professionals.

Photographer's app is available for everyone and you can hire an artist for your task. People can also enjoy amazing artworks posted by the artist through explore feed. The app provides easy availability of equipment to our photographers with variety of option through the shop feature. Photographers can post and share their artworks to get amazing paid project opportunity and can have one-to-one deal with clients. To keep growing the skills, photographers can also learn through free, certified video courses. Photographers do have a lot of skills and experience, but they need time to excel in the market which makes it difficult for them in these times to grow. Due to smartphones good cameras and a lot more technology it is difficult for the industry to grow. They need to build their self to find a place in the industry.

So this app basically helps them to grow in their field and make me much great that it already is. This app is going to take the photography world to another level which will help them to coordinate and help each other to advertise to find clients.



Keywords: photography, social media, digital culture.

LITERATURE REVIEW:

Social media have achieved a prominent role in people's daily life. Several photographers and institutions have created social media accounts in response to the trend nowadays. The development of photography on social media should be investigated, and the background of digital culture is also critical in analysing the topic. The method of literature review is applied with the extensive reading of research articles, literature reviews, and media reports. Main findings are that several photographers create artworks based upon several issues about social media, such as snapshot, selfie, and identity. Some of these issues are related to popular photography, which reflect the tension between art and popular photography. Photographers also upload the entire series on social media and interact with the audience. In this way, social media can be seen as a unique medium for art practice, more than simple exhibition of artworks. Photography on social media also echoes with its history and the age of digital culture.

METHOD:

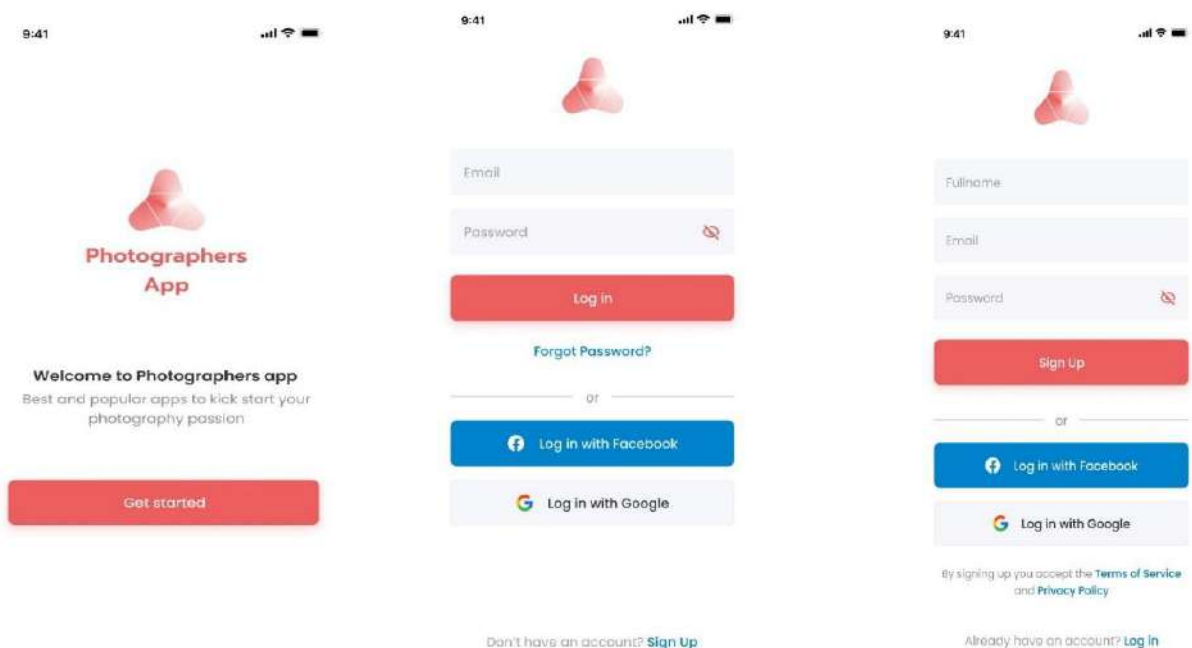
In this review article, the method of literature review is applied. The photographs, data, and analysis were referenced in research journal articles, thesis, books, and websites. Combining all the sources, art photography nowadays can be viewed comprehensively.

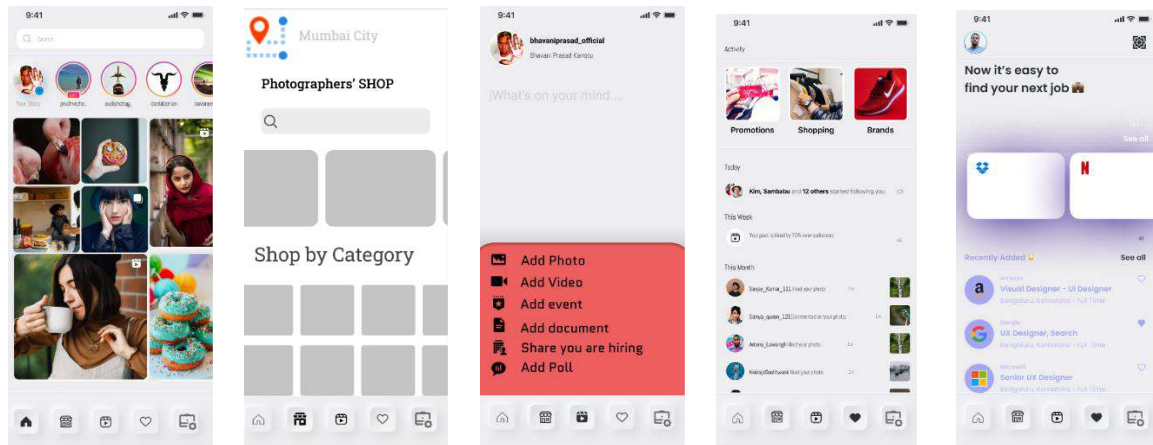
Demography:

With increased usage of internet and social media, every individual always tries to come-up and built his/her strong identity and personality which will stand out and influence among billions of people in the social media, many of them are building their passion and others of them are growing their businesses. In short, everything runs online and on smart device now-a-days.

Many of the photographers need a platform where the focus will be particularly on to bring all the photographers together and keep them updated to the latest trends. This app act as a bridge between the photographers and the people who is looking for photographers for their projects/events.

This app fulfils all the basic needs of photographer's right from if they want to shop some equipment or to share their work to other people creates a competitive world, so this app is ideal place for photographer's community





History of Photography Early Ages

Since the invention of photography in Britain and France in 1839, people praised its picture-taking instead of picture-making. Artists used cameras in place of sketchbooks to record the physical and social world, as photography is usually called a representational system, and is prominent in likeness. In this way, photography released painting from the responsibility to depict the real world, so that artists can experiment with paintings.

In the late 19th century, Amateur Photography rose as the technology of film and camera developed rapidly, which allowed the casual amateur to take pictures easily. Serious amateurs wanted to distinct themselves from the masses, trying to claim photography as art. Later on, photographic society like The Linked Ring in Britain and Photo-Secession in America pursued to promote photography as fine art. Alfred Stieglitz, in particular, brought photography to several exhibitions and publications.

Digital Culture and Art World

The word “digital” refers to data stored in a discrete form. Though numerical, linguistic, and other systems are also digital in this sense, “digital” itself is closely related to digital technology like digital binary computer, the Internet, digital film, as well as some cultural responses to them, such as cyberpunk films. Digital culture is culture related to digital technology. Although the culture is a new trend, it can trace back to Alan Turing in the 1930s and several artists like John Cage in the post-war era.

Art and digital culture are more connected than ever as new media art like computer graphics, virtual art, and Internet art sprung up with the development of digital technology. New media art worlds became overlapped with the traditional gallery art world, and even changed some aspects of the latter.



Digital Culture and Art Photography

Digital culture brought about several phenomena on social media. These phenomena have become sources for the artistic creation of art photographers. Trevor Paglen, in 2014, dealt with the topic of surveillance with his project, *The Last Pictures*. The issue has a heated discussion as social media users are faced with the problem of surveillance more than ever before.

Some phenomena are just in the form of photography, for example, snapshot and selfie which have been discussed above. These genres of photography are not only part of digital culture but can also be called popular photography. Snapshot photography, a genre from the masses, is a casual way of photography, and even seen as artless. However, several artists turned to snapshot as a formal device in a conceptual approach, and some further used them as raw materials for art practice. MoMA curator John Szarkowski also dealt with snapshot in the 1964 exhibition *The Photographer's Eye*, claiming its style as

In general, digital culture results in popular photography in the present day, and the latter can be dealt with by art photographers.

Hence, in the age of digital culture, art photography and popular photography might have more blurred boundaries. Some argue that, in the networked environment on social media, photographers might be decentred and lose their authorship.

In further research, more art photographers and institutions should be considered to demonstrate the whole map of photography on. Other art forms will also be added for analysis.

Analog and digital photography

In the 1990s, digital cameras went popular, and photography, in some ways, evolved from the analogue age to the digital age. Several critics discussed the topic of reproduction, from Walter Benjamin's mechanical reproduction in the early ages of photography to the new age's digital reproduction. Some argue that the materiality of the object and the context where the

photographs get their meaning are gone in the digitalization process, while others think aura is transferred to the individualized copy. Nowadays, most cameras used are digital, in place of cameras with photographic films.

Recent trends in photography:

Over the course of past decade, the advancement in technology made the photography far more user-friendly and affordable. There are more photos today, than ever before!

Research into technology and storage has recorded that there is huge amount of increasing data usage each single day, compared to the history of mankind. The frequency at which individuals take photographs can be the primary cause. Some of the most common trends in photography are listed below:

Phonography:

Smartphones and tablets are standing as a tough competitor in terms of quality, usability and software. It provides an easy to option to enhance any captured image, like editing and it also acts as a very good source to share it worldwide through social media websites.

Macro Photography:

The fascination to explore every minute and unique feature exist and improved camera technology allows people to take extreme close-up shots of organisms, nature etc.

High Dynamic Range Photography:

HDR photography allows cameras and image at greater luminosity, closer to the human eye sight. HDR photography has also become one of the trend.

Retro- Style photography:

The vintage range from black & white to sepia, the modern photography tends to go more towards the iconic classic photos. Including, the usage for filters and presets such as films, retro lenses is also popular.

360 Panorama:

The advancement in the skills of photography and capturing technology, Panoramas that capture a 360-degree view of area is a great innovation and widely accepted by most of the people.

Point and Shoot Size DSLRs:

Professional cameras are becoming smaller and nimbler, which is attracting and also very much portable and easier to handle and control. It has also attracted a lot of traditional consumers.

Drones:

A very popular new photography style not only captures the casual shots but also, the beauty of venue around. It is especially popular in the real estate industry which helps the real estate brokers, agents or property owners to capture the Ariel images for their customers. Also, this has become a new trend in events and weddings, which captures not only the moments but also the overall set-up and decoration view as their memories.

Selfie:

As heard in the popular song “Let me take a selfie”, a lyric which everyone says for capturing their celebration, get-together, achievement etc. The “Selfie” has become the most popular trend in photography and also has changed the subject of the photos as well. With the help of technology, the “selfie” is getting upgraded and innovation like “Selfie stick” has come to the picture as new photography equipment. It allows people to take group shots of themselves, making it possible to capture an entire group without a photographer or a member out of the picture.

Effects of Trends on Photographers, Studios and Corporations:

With the great evolution in photography and technology the way how individual share their photography artwork has also changed. Internet which connects everyone globally and existence of Social media sites such as Facebook, Instagram has made sharing photos as easy as a click of the button, giving an opportunity just not only to professionals but every individual and casual photographer can disseminate their work in seconds, rather than in months.

Society itself is also becoming a more visual place. Photos are used more often in branding and online marketing, opening up doors for both professional and aspiring photographers to get their work out there.

But the line between professional and unprofessional is also getting blurred. New software makes it possible for amateurs to edit photos to near-professional standard. That means that trained, expert photographers are being held on to a higher level. As amateur photographers

improve, professional photographers need to prove that they are offering real value to their clients, and that they are an artist - not simply an individual with a camera. For professionals, studios, and more, the recent trends in photography have their benefits and weaknesses. Images can now be used in more places, and the culture itself is becoming one, which encourages professional, higher quality photography. As photos, such as the 360-degree panoramas, become popular in fields like real estate, tourism, and other fields, so too do the needs for quality photographers that can handle the tasks. Yet, photography also now has more requirements, including better post-production, greater levels of artistry, and more versatility for the photographer.

Prediction for the future of Photography:

Since 2010, digital camera sales have fallen 80%. And it's not because people are taking fewer photos. On the contrary, people are taking more photos than ever. But now everyone uses their smartphone, a valid reason for not to carry an extra piece of gear. The first phone cameras were no match for a specialist compact. But now the tables have turned. And phone technology has progressed by leaps and bounds.

High-standard DSLRs and mirrorless cameras are not in danger. Their future is assured. But I fear the sun is setting on the day of the compact camera. A few 35mm units might survive, thanks to geeks like me. But the digital compact has had its day.

Artificial intelligence (AI) is something we're familiar with from science fiction films. They're either set in the future. Or someone, or something, has travelled back in time. But AI is already with us. AI is already a feature in many modern cameras and lenses. But don't worry. Your camera isn't plotting to kill you and take over the world. Not yet anyway. The autofocus and image stabilisation systems both use AI to achieve precise results, as does tracking and automatic exposure features. And similar AI software is being introduced to smartphone cameras and editing apps.

AI is already making digital photography quicker and easier. And this is only going to develop further.

Why Photographers and Photo Editors on the Passion That Drives Their Work!

The people who make up today's thriving photographic community are our eyes to the world. Whether established artists or passionate emerging voices, inform us, inspire us, they amaze

us, they put our world in the broader context of history. But that community also faces great challenges — dwindling sales, increased competition and a fragile trust in photographers' mission to inform. Too often, those factors can make those of us in that community, photographers and photo editors alike, lose sight of what drive us.

Here's a short review of some of the best encouraging – some of the many photographers and photo editors who have influenced and inspired a lot of youngsters like them through the social media – answering these essential questions: Why do they do it? Why do they wake up every morning ready to take photographs, to edit them, to publish them? Why is photography important to them and, by extension, to all of us? Here are their answers.

Sarah Leen, Director of Photography, National Geographic

I have spent my entire professional life creating, editing, critiquing or teaching photography and working with photographers. It has been the way that I have experienced much of the world. In a deeply personal way I feel an image is a poem about time, about “staying the moment.” Photography can defeat time. Images can keep the memory of a loved one alive, hold a moment in history for future generations, and be a witness to tragedy or joy. They can also change behaviour, stimulate understanding and create a sense of urgency that will move people to action. Photography is the universal language that speaks to the heart.

MaryAnne Golon, Director of Photography, Washington Post -

Why is photography important? Photography speaks. When I discovered and later understood photographic visual language, I saw that this language could inform, educate and move audiences worldwide without the need for a shared spoken language. A successful photo story, when well-authored and edited, is universally understood. I once presented a photo story in China in silence to a professional photography group where the audience smiled, laughed, and fell quiet in all the right places — without a word in Mandarin or English. After the last frame, we all just beamed at each other. It was so thrilling.

CONCLUSION:

3D and AI are at the forefront of technological development. We'll have fully immersive experiences in our living rooms. And our devices will do our editing for us. Well, some of it, at least. Vintage cameras and processes are back in vogue. Maybe it won't last forever, but there's an upward trend which is positive to see. Unfortunately, Time also has its victims. Not

everyone will wake to see the sun rise on the world of tomorrow. DSLRs are looking a bit shaky. And compacts don't look like they'll last the night.

Through literature review of photography, social media, and digital culture, findings are that photography and social media are closely connected in the age of digital culture. Art photography has developed from analogue to digital, and to the nowadays networked social media. The background of digital culture offers several nowadays issues for art photographers. Photography on social media is the main point. Photography Applications are mainly used for promotion or exhibition. Art galleries demonstrate their exhibitions, and art photographers post their recent or past works. In this way, art institutions and photographers can gain more popularity, and the audience can extend their aesthetic experience. These artworks mean that they have influenced the workflow of photographers and provided new topics and perspectives for art creation.

All in all, the significance of the article lies in that it gives an outline of art photography on social media to dig into the relationship between art and technology, and discuss the issues we face nowadays. Relationship between art and technology means that art is never pure art. The art of photography and the technology of Photography Applications have strong bonds and bring forth some inspiring new works of art. Issues on Photography become the topics of artists, such as identity, privacy, and selfie. Discussing these issues from an artistic perspective prompts people to realize the phenomena, reflect on the era, and make possible changes.

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DETECT DRIVER DISTRACTION USING SMARTPHONE

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ABSTRACT:

Distracted driving is the act of driving while engaged in the other activities—such as looking after texting, children talking on the phone or to a passenger, eating, watching videos, or reading—that take driver’s attention away from the road. Distractions compromise the safety of the passengers, driver, bystanders and those in other vehicles. Cellular phone usage while driving is a major distraction. The number of accidents that are related to Cellular phone use while driving, laws have been introduced making the use of a Cellular phone while driving illegal in several jurisdictions. In this paper, we address a fundamental problem of distinguishing the driver from passengers using common camera feature of Cellular phones to determine the position of the camera (hence, cell phone) in a vehicle. In this report I will discuss technique to detect driving distraction using sensors available in smart phone and also discuss how this information can help in understanding driver behaviour and accident detection techniques.

Keywords: Image Registration, near field communication (NFC)

INTRODUCTION:

For a very long time, the short form “DBC” usually meant a tasty serving of Death by Chocolate. But in recent years, thanks to the reckless use of cellular phones by people while driving, you could as well change the expansion to Death by cellular Phone. According to a survey by the Centre for Disease Control and Prevention (CDC), in year 2011 because of the distracted driver 3,331 people were killed in accidents [1]. CDC also reported that while driving around 31% of the drivers were reported to have used the email or text message features. Combining all these data, around 1,033 peoples were killed by texting and driving.

Even without the statistical data, it is evident that cellular phone usage while driving is a major distraction. Every day, we see scores of people who use their cellular phones to talk, text, check

messages, play games, etc. Detecting vehicular movement is straightforward but ascertaining whether the user is indeed the driver is a complicated problem.

The fundamental problem of distinguishing between a driver and passenger using a cell phone is the critical input to enable numerous safeties and interface enhancements. The problem of distinguish between a driver and passenger using a cellular phone is fundamental to enable numerous safety and interface enhancement.

Driver detection:

The synergy of communication, sensing and computing on modern smart phones is enabling high resolution insights into human behaviour. Recent research has attempted to leverage these insights for improved personal activity recognition, ranging from simple activities such as walking and running [3] to more stylish ones like, whether the client is in a social gathering or is riding in a car, in a bus or a train [5, 7]. The goal is to differentiate whether a phone's user is the driver or the passenger in a car, thereby enabling a variety of vehicular applications on the smart phone. For instance, several car insurance companies are aiming to personalize the insurance rates paid by individuals. Their aim is to charge a best in percentage of hours he or she drives.

NFC:

New cellular phones are having a near field communication (NFC) service radio (e.g., for online mobile payments). Some newly features cars also have NFC radios for key-less entry. If the car's firmware can be modified to use the NFC channel to inform the cellular phone which door was used for an activity, even if the user was not unlocking the car, the phone will determine if the user is a driver. However, a few existing and new cars have NFC service, and it is only installed on front of the cars doors.

Audio:

Most cars have a speaker near each of the 4 corners of the car. Every time the car starts, it can generate a sound pattern that is emitted from the four speaker's one after the other. The phone microphone can be used to triangulate its position with respect to the speakers. As with the previously this requires car firmware to be changed, though the hardware is more common than NFC. On the other hand, deploying additional software on smart phones is significantly easier. Thus, in DDS we use only the phone's built-in sensors. The key intuition behind this approach

is that the phone sensors include an accelerometer that can be measures acceleration along with three axes, and gyroscopes that can be measures rotation along with denote roll, pitch, yaw, and three axes. Those sensors can be used to detect every individual momentum pattern in car or an automobile to distinguish drivers from passengers.

Challenges:

Experimental data will be helping to identify key challenges in detecting relevant user movements. One of the distinguishing micro-movements is that of the driver's right leg pressing the accelerator pedals or brake pedals, which is absent in passengers. Sensor data for a short time duration around one such pedal press.

Multiple Movements:

The data has significant noise. The motion of the vehicle causes the accelerometer and gyroscope outputs to change continuously. At a coarse granularity, the signals are similar for the driver and passenger. The pedal related movement is not a simple sensor value but a specific pattern that varies somewhat with each pedal press and occurs interspersed with other patterns.

Phone Position and Orientation:

The driver's leg movements can only be captured correctly when the cellular phone is in the correct pocket, the one on the right leg. The phone is not able to capture these movements when phone is placed in the left leg pocket since the left foot is usually not used for any pedals (except if the car is equipped with stick shift), or any other pocket. Even when the person's movement pattern is present, it can vary depending on how the phone is oriented / placed within the pocket, the pattern is more definite on the roll axis when the phone is carried in a horizontal orientation and on the pitch axis when the cellular phone is vertical.

Detecting camera position:

The basic idea of the proposed method is to let the embedded camera of phone is to capture images periodically and use those images to provide context and / or its position of the Smartphone.

Image Registration:

When image comparison process is done electronically, the images are overlapped, and various pieces of information are collected. This process is called as Image registration and this fall

under the field of computer vision. So, image registration became the obvious choice to be used in this paper.

Sensor based detection:

Detection of multiple micro-movements for various cellular phone positions and orientations leads to multiple cases that DDS design should deal with. Fortunately, simplifications and commonalities across cases exist. Firstly, to overcome the variable phone orientation, we map all signals to a reference orientation. The phone compass and accelerometer data can be combined to get the earth's gravity vector and magnetic field which suffice to generate this mapping. The Android OS and iOS provide APIs to support this calculation. Secondly, movement constraints help prune the search space of movement signatures in each case. Figure 1 presents a systematic combination of multiple sensor signal signatures for various possible phone positions (lower body pockets, upper body pockets, and handbag), to determine if the user is a passenger or a driver.

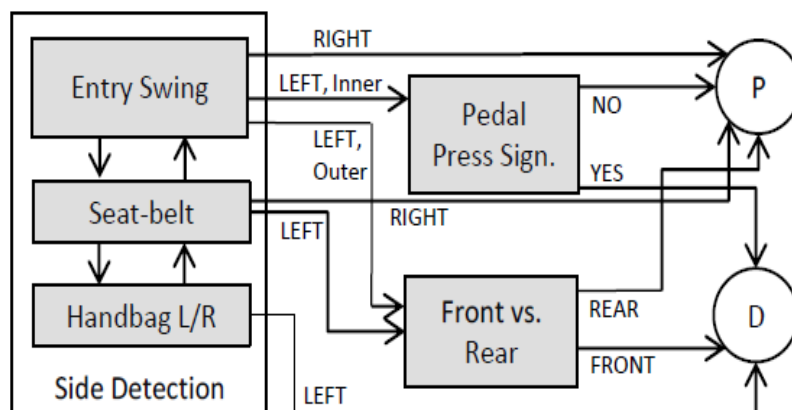


Figure: D = driver, and P = passenger, denote the outputs.

Entry Swing:

This block determines if the user is in the right or left side of the vehicle cabin, for the phone carried in a lower body pocket. The swing in the user's lower body reveals the direction of entry (left vs. right). Furthermore, the movement can be separated into two significant parts to determine if this signature occurred first on the leg closest to the phone or the other one, revealing if the phone is in the pocket on the innermost leg.

Seatbelt:

This block detects right vs. left side for the phone carried in an upper body pocket. The users on the left will wear their seat belt by first turning left and then turning right as they pull the seat belt to the fastener. The motion is reversed for the other side.

Pedal Press:

This block determines if the user's leg is being used for pressing the brake or gas pedals. The sensor data is matched with pedal press patterns using a clustering algorithm. This block is used only if the above block outputs that the user is in the left side of the cabin and the phone is in the user's inner leg pocket.

CONCLUSION:

A smart watch is a computerized wristwatch with functionality enhanced beyond timekeeping. Early smart watch models can perform basic tasks, such as calculations, translations, and game-playing, modern smart watches are effectively wearable computers. Many of the smart watches run mobile apps, while a few numbers of models run a mobile operating system and function such as portable media players, offering playback of FM radio, audio, and video files to the user via a Bluetooth headset. Some smart watches models, also called as 'watch phones', feature full mobile phone capability, and can make or answer phone calls. Smart watch come with many sensors such as Accelerometer, Ambient Light Sensor, Compass, Gyroscope, Heart Rate Monitor. Therefore, smart watch can be used to develop applications for driver behaviour analysis or accident detection. Following is the some of the basic specification of the smart watch Sony Smart Watch 3 which clearly shows that smart watch can be used to develop powerful applications.



Specifications:

- Display: 1.6" 320 x 320 Transflective TFT LCD (280 ppi)

-
- Processor: 1.2 GHz ARM Cortex A7
 - Dimensions: 36 x 51 x 10 mm
 - Battery: 420mAh
 - Memory: 4GB internal storage with 512MB RAM
 - Sensors: Accelerometer, Ambient Light Sensor, Compass, Gyroscope, Heart Rate Monitor
 - Smart watch can be used to detect whether that user is driver or passenger by using data acquired from the various sensors present in it.

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AN EFFICIENT BIOMETRIC IDENTIFICATION SYSTEM

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abhi.ask10@gmail.com**ABSTRACT:**

Biometric identification scheme has been in huge demand since it provides a reliable way to identify the users. An efficient biometric identification outsourcing scheme which is privacy preserved specifically on biometric data, is proposed. The biometric data is encrypted and outsourced to the cloud server is present here. The owner of database encrypts the query data and then send it to cloud, in order to execute identification process. Then the cloud performs identification operations over the encrypted database and returns the result to the database owner. A security analysis is carried out, indicates the proposed scheme is secure even. Even if the attackers can forge identification requests and collude with the cloud. As compared to previous systems, results show the proposed system leads to a better performance in preparation as well as identification procedures to be the other biometric data which is kept hidden from the service provider of cloud.

Keywords- biometric identification; efficient scheme; identification process; cloud computing

INTRODUCTION:

Biometric identification scheme has been in huge demand since it provides a reliable way to identify the users. As compared to the old authentication methods such as pins, passwords and identity cards, a biometric identification is considered to be more trustworthy and convenient. A biometric identification has been used widely in numerous fields, which uses the biometric traits such as fingerprint [2], iris [3], and facial patterns [4], which can be identified as well as collected from various sensors [5]- [9]. In a biometric identification scheme, the owner of the database, consider a FBI who is responsible to look over and manage the fingerprints database of entire nation, can desire to leak or outsource the huge biometric data to the cloud server (e.g., Flipkart) to get rid of the computation costs and expensive storage. However, to preserve and prevent the privacy of this biometric data, this data has to be encrypted before outsourcing it to

the cloud. Whenever an outsider wants to verify an individual's actual identity, the outsider turns to the FBI and then creates a query for identification of individual, with the help of the biometric traits such as fingerprint, iris, voice pattern, facial pattern, etc. Hence, how to design such a system which is a combination of an efficient as well as privacy-preserving biometric identification scheme using cloud computing is a challenging part. Numerous solutions for privacy-preserving biometric identification [10]-[13] have been proposed till date. However, most of these solutions mainly focus on privacy preservation and ignore the efficiency, such as schemes based on homomorphic encryption and oblivious transfer [10], [11] and for fingerprints and face image identification respectively. In a biometric identification scheme, the owner of the database.

AIMS AND OBJECTIVE:

Aim:

The basic idea for proposing this system is to provide a biometric identification system which is efficient and privacy-preserving, can resist the any attack caused by the users and the cloud. The data owner encrypts the query data and submits it to the cloud, in order to execute a biometric identification scheme. The cloud conducts process of identification on the encrypted data to return the result to the owner. The exact aim is to secure the system even in case attackers forge identification requests and tries to collude with the cloud.

Objective:

Security and efficiency both are considered in the proposed scheme, in order to achieve practicality.

Efficiency:

Computational cost must be as minimum as possible at user side as well as owner side, in order to obtain more efficiency

Security: The privacy of data consisting biometric traits of the clients must be protected. Attackers or others should not learn anything regarding the confidential information.

Biometric Encryption: When applied on biometric database, even if cryptography is reliable, it falls in the inadequate category. Depending on the cryptographic mechanisms it is inadequate.

Anonymous Database: The aim is to verify anonymous data consisting of the membership of the user by not even knowing his/her actual identity. The main question here is whether in anonymous data there's need for security between two components: The client and the cloud server.

LITERATURE SURVEY:

Julien Bringer, HerveChabanne and Bruno Kindarji. "Identification with encrypted biometric "data" Biometrics made identification of human possible using a sample of their biometric trait with associated database. Traditional identification techniques take us to concerns regarding privacy. This is a new scheme to authenticate someone using biometric traits in an encrypted way. Joaquim de Mira Jr. Hugo Vieira Neto Email author Eduardo B. Neves Fábio K. Schneider. "Biometric-oriented Iris Identification Based on Mathematical Morphology".

A new system for identification of human irises is presented in this scheme. This system depends on morphological image processing used for the identification of various skeletons of iris structures, those are later used for extraction of features. Changhee Hahn Junbeom Hur. "Efficient and privacy-preserving biometric identification"

With the increasing rate in the development of smart equipment associated with biometric sensors, identification using biometric traits are very commonly adopted across different applications. Among all the biometric traits, the fingerprint identification-based systems have been mostly learned and deployed.

EXISTING SYSTEM:

This is privacy preserving protocol for fingerprint-based authentication. Let us assume a scenario where a user is equipped with a fingerprint reader and is interested into peeking, if the associated fingerprint belongs to the database of entities which are authorized and managed by a server. For privacy, it is needed that the user learns nothing from the database and the server must not get any kind of information about the biometry asked, and the output of the identification process. The proposed scheme follows an approach that is multi-party computation approach and makes use of homomorphic encryption as partial cryptographic primitive. To keep the complexity of the system as low as possible, a typical representation of fingerprint images, named Finger code, is adopted.

SR NO.	PAPER TITLE	AUTHOR NAME	METHOD	ADVANTAGE	DISADVANTAGE
1.	An Efficient and privacy-preserving biometric identification scheme in cloud computing	Liehuang Zhu, Chuan Zhang, Chang Xu, Ximeng Liu, Cheng Huang.	Encryption and decryption of biometric data using cipher text in cloud computing.	It has cloud server to store infinity data. It is very inexpensive	Doesn't provide efficiency and client privacy, also it takes excessive time utilization for identification.
2.	Biometric-oriented iris identification based on mathematical morphology	Joaquim de Mira Jr. , Eduardo B. Neves, Hugo Vieira Neto, Fabio K. Schneider	This technology is based on morphological image processing for the identification of iris	It includes iris identification, which is more efficient secure and reliable	This system guarantees the optimization but time complexity is still an issue.
3.	Efficient and privacy-preserving biometric identification [17]	Changhee Hahn, Junbeon Hur	Symmetric homomorphic encryption	It is faster than the existing scheme.	It has expensive storage and computation cost is high
4	Efficient and privacy-preserving face recognition	Ahmad-Reza Sadeghi, Thomos Schneider, Immo Wehrenberg	Cryptographic building blocks combining homomorphic encryption with garbled circuits.	It consumes less computation complexity.	It has Expensive storage and Computation cost is high.
5	Identification with encrypted biometric data	Julien Bringer, Herve Chabanne and Bruno Kindarji.	Bloom filters with storage and locality-sensitive hashing	It is error – tolerant scheme, in a hamming space to achieve biometric identification in efficient way.	Doesn't provide efficiency and client privacy. It takes excessive time utilization for identification

6	Biometric security	Austin Jay Harris , David C. Yen Information Management & Computer Security	There are reasons for higher security and biometric authentication will be shown to be the solution to answer this call.	A biometric cannot be transferred between individuals and represents as unique identifier.	A key to secure use of biometric is to make a specific biometric sensor.
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PROBLEM STATEMENT:

This system reduced the cost and made it cost-efficient. Since cloud computing is used in this project, memory is major portion which is covered and saved. The data is stored in encrypted form so even in the case of leakage the data cannot be misused. This project also focuses on the time complexity issue.

PROPOSED SYSTEM:

In this system, here it is shown that an efficient and privacy protecting biometric identification system which can resist any collusion attack held by the clients and the cloud. Especially, main aspects can be summarized as follows:

In this system, it is checked whether the identification system exposes its own insufficiencies and weakness under the proposed level-3 attack of security. Especially, it proposes that the attacker can recover the private keys by collusion with the cloud, and hence decrypt each user's biometric traits.

This is a novel system based on efficient and privacy preserving biometric identification. The deep analysis on security shows that the proposed system can achieve a mandatory level of protection. Most importantly, this system is safe under the biometric identification output model and also resists the attack which is proposed.

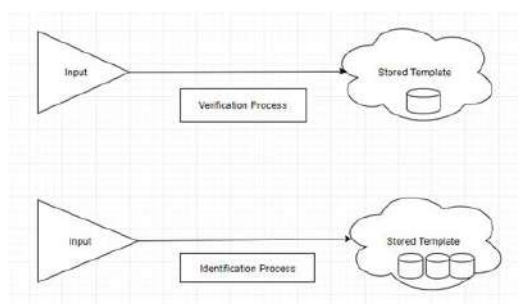


Fig.1: Proposed system

ALGORITHM:**NOVEL BIOMETRIC IDENTIFICATION SCHEME ALGORITHM:**

This algorithm is divided into two steps as follows:

STEP 1:

Preparation process

Cipher text Policy Attributes Based Encryption Algorithm

Input: plaintext message M

Output: Cipher text.

Preparation:

1. Select a random number r in p -integer modulo Z with the polynomial function and sets $q(R,0) = r$.

2. $q(x,0) = q(\text{parent node}(x, \text{index}))$ for intermediate nodes.

Let L be the set of leaf nodes in access tree structure, then the cipher text is generated based on the given access tree structure T as: Ciphertext $(C) = \{\text{Fill_AccessTree}(\text{Policies}, s \in Z^r, \text{PUK}), \text{ for all } x \in X: C_x = kq(x,0), C_{1x} = H(A(x))q(x,0), m.o, h \in \text{PUK}\} \in \text{PUK}\}$

STEP 2:

Identification process

Euclidean-Distance Protocol Algorithm

Input to the server: a matrix $\{v_i, j\} M \times N$.

Input to the client: a vector $v' = [v_1', \dots, v_N']$.

Output of the server: M random integers $[d_1', \dots, d_M']$,

where $d_i' = d_i + r_i$.

Output of the client: M integers $[r_1, \dots, r_M]$.

Preparation:

Client chooses $[r_1, \dots, r_M]$, and computes $[d'] = [d_1' \parallel d_2' \parallel \dots \parallel d_M']$

2. Send $[d_1' \parallel d_2' \parallel \dots \parallel d_M']$

The server decrypts to get $[d_1', \dots, d_M']$

The server generates a key pair $\langle pk_S, sk_S \rangle$.

For $1 \leq j \leq N$, the server computes $[2c_j]_{pk_S}$.

MATHEMATICAL MODEL

PREPARATION PROCESS:

In the preparation process, b_i is the i -th sample feature vector derived from the fingerprint image using a feature extraction algorithm. To be more exact, b_i is a non-dimensional vector which consists of l bit each element and where $n = 640$ and $l = 8$. For easy identification, b_i is increased by adding an $(n + 1)$ th element of B_i . After which, the owner of database encrypts B_i with the private key M_1 as follows:

$$C_i = B_i \times M_1 \tag{9}$$

The owner of database later performs the following operation:

$$Ch = M^{-1} 2 \times H T \dots \tag{10}$$

Every Finger Code B_i is adjoining with an index I_i . After execution, the encryption operations, the owner of database then stores (C_i, Ch, I_i) to the cloud.

SYSTEM ARCHITECTURE:

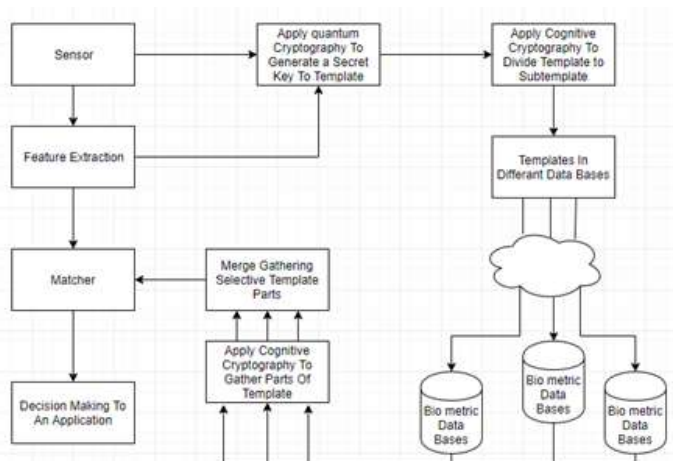


Fig.2: System Architecture

Description: This section introduces the system model, attack model, design goals and the notations used in the following sections. In System Model, there are three types of entities involved in the system including the database owner, users.

ADVANTAGES:

Biometric identification is a trustworthy and reliable way of identifying individuals. The worldwide adoption of this biometric identification needs very strong privacy and protection against possible attacks, loss, or misuses of biometric data.

The traditional techniques for this efficient biometric identification system firstly depend on the conventional cryptographic primitives like the oblivious transfer and homomorphic encryption, which obviously introduce very high cost to the system and are not considerable.

With the increasing growth in biometric sensors, the user identification system with biometric traits is very vastly accepted across many applications.

DESIGN DETAILS:



RESULT

CONCLUSION:

Thus we have tried to implement the paper "Lichuang Zhu, Chuan Zhang, Chang Xu, Ximeng Liu, Cheng Huang, "An efficient and privacy-preserving biometric identification scheme in cloud computing," -IEEE Access 2018. In this paper an efficient and privacy-preserving biometric identification system using the cloud computing is being proposed. The detailed analysis shows it can resist the potential attacks. Besides, through performance evaluations, the proposed scheme meets the efficiency needs as well.

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AR BASED: HOME 360

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ABSTRACT:

Augmented reality in which virtual content seamlessly integrate with displays of the real-world scene is a growing area of interactive design. The upcoming trend in the real estate world. Augmented reality in real estate with 3D floor plan, this digital content will improve customer experience, great marketing, grow interest, time saving and drive sales. AR Home 360 app will allow customers to select their floor plan at the ongoing projects. Once selected, you need to point the AR camera on a plane surface and 3D floor plan will be augmented on your screen. Additionally, AR camera will also provide you with home décor furniture filters i.e. you need to point the camera on a plane surface where you need to check if any home furniture suits at that place. There will be various filters for interior decoration. These features will surely enhance customer experience.

Keywords: - Augmented Reality, 3D floor plan, Home décor furniture, AR camera.

INTRODUCTION:

Augment reality provides us the real-world experience, which can produce a big impact on the real estate industry. Every seller or agency will struggle in explaining the catalogue of their estates to the client. It depends upon the client how they understand their catalogue and their expectations will be truly high.

It overlays three- dimensional floor plan augmented on a plane surface, which is advanced from existing floor plan as they mostly are in 2D and difficult to understand. This technology will definitely boost real-estate industry and will increase promotions, marketing and this will save time and energy of customers.

The app works like this, you need to select the ongoing projects through our app, select the floor and then automatically your camera will be turned on, you need to point the camera on plane surface and your floor plan will be augmented on that plane surface. In addition, The app

also provides interior section in which there will be filters/models of interior decoration which eases the confusion of which corner of the house it suits.

Critical characteristics of Augmented reality:

Mixing virtual images with the real world

2D&3D graphics and animation.

Interactivity in the real world.

OBJECTIVES:

Every individual faces issues in documentation of apartments which will give very little information about it, Picturization of the building is good but still, it is not real, visiting along with every customer takes too much time.

Trending marketing:

AR will be a great for a marketing perspective, it will definitely catch everyone's attention once it enters the market.

Easy understating of the property:

Unlike 2D, 3D models are way more attractive and easy to understand.

Very attractive and interesting:

As this technology is new in real- estate, it will engross everyone's eye.

Save time of traveling.

The most astounding part of this app- no waste of time to visit different site

AR furniture filter-

Newest technology that will give you an idea about how the furniture may look in any particular are these new AR Technology in real estate with the help of AR furniture filters will definitely be a boon in a market of real estate.

LITERATURE SURVEY:

Augmented Human: How technology is shaping the new reality

By Helen Papa Giannis.

Augmented Human gives a great holistic overview of AR's impact on different industries and cultures through stories, real examples and insights from AR experts. In the book, Dr. Papagiannis explains what the "new wave of reality" is and how AR technology can amplify our human abilities through all five senses, not just sight.

Augmented Reality: Innovative perspective across art, industry, academia. By John Tinnell and Sean Morey.

This book breaks away from the very technical perspective that augmented reality books typically focus on. It takes insight from both artistic minds and software developers to provide a unique understanding of the forms of augmented reality. The book is not spoken solely from one voice, but includes outside interviews, essays, and artworks.

Magic: How Augmented Reality will change our world

By Ishaan Bhola -

Augmented reality has the ability to introduce "magic" into our everyday lives. One of the reasons it is proving so disruptive is because it has the opportunity to change not only our surroundings, but also the way that we go about normal tasks. This book is an effective overview of current trends in the AR tech world and how it is evolving. The advancements in this industry are going to affect everyone's perceptions of reality.

PROBLEM STATEMENT:

An app which will help people to resolve the toughest problem faced during, deciding a floor plan for their home or which real estate project to be selected. The problem faced is that a 2D paper plan is not sufficient to imagine the actual construction. The key problem is that not every person selecting has a planning or architectural background, so the spatial perception of each person is to be valued in a different way. What always frustrated us, is that if there were a picture or a model, it would have made the decision so much easier. As the real estate investments are huge but no assurance whether one will meet their expectations, imagination before investing. It is not great for promotional usage and also doesn't incite emotion in renters.

SURVEY OF TECHNOLOGY:

Augmented reality is one of the biggest technology in use right now, and it's going to get bigger as AR ready smartphones and other devices have become more accessible around the world. It allows us to get a new perspective on the purpose that we are trying to get a proper look. Whereas virtual reality takes the components to another level by producing an entirely computer-generated simulation of an alternate world. These immersive simulations can create almost any visuals for the player using special equipment such as headsets, and gloves.

Difference Between Augmented reality and Virtual Reality

	Augmented Reality	Virtual Reality
Attribute	Mix Reality	Virtual
User experience	Interactive with real world	Fully immersive
Most used for	Education, Construction so on.	Videos Game
Interactions	Move, rotate, scale and manipulate the 3d objects in the real world	Move, rotate, scale and manipulate the 3d objects in the virtual world
Enhancement	Enhances both real and virtual world.	Enhances fictional reality for the gaming world.
Flexibility	Uses hand controllers, often tethered	Handheld

Table 2. Difference between Augmented Reality and Virtual Reality

FIGURES AND TABLES:

The mechanism of the applications is user-friendly to use. The Application Augmented Reality is used for devices like Smartphones. The methodology is very accurate and sequential process. When an individual who doesn't have a clear visualization of the floor plan they will be investing in or whether a particular furniture suits with the ambience then the application provides the following features:

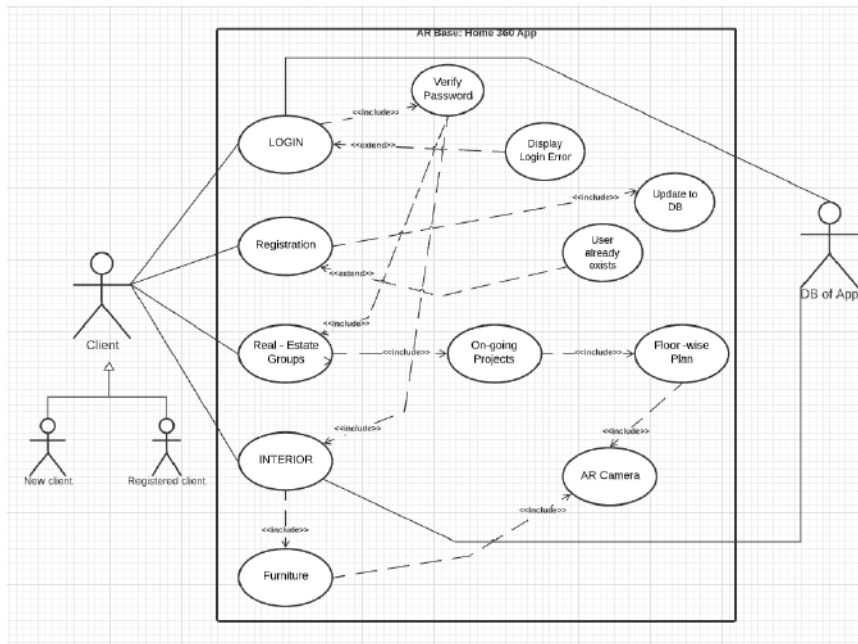


Figure 1



Results

The app works like this, you need to select the ongoing projects through our app, select the floor and then automatically your camera will be turned on, you need to point the camera on plane surface and your floor plan will be augmented on that plane surface. In addition, The app also provides interior section in which there will be filters/models of interior decoration which eases the confusion of which corner of the house it suits.

CONCLUSION:

Augmented reality helps companies meet customer's specific needs and brings in a higher level of innovation and engagement. Augmented Reality in real estate will help customers in 3D visual engagement with thinking and a lot more convenient. As this technology is new in the Indian real estate market, it will create great customer engagement and the sales will increase

too. But, the biggest benefit of using augmented reality is that it gives the client a sense of scale that isn't possible on a computer monitor.

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Efficiency Analysis of Virtual labs on Earned Value Management

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ABSTRACT

This paper examines the efficiency of designing virtual labs on complex topics in software project management. It also examines the efficiency of virtual labs in making the concept clear to the students in an online teaching learning environment. It helps work with students in a virtual lab setting, logistics, and methods to resolve issues. To demonstrate the feasibility of a virtual lab, a mixed-methods study consisting of quantitative surveys and qualitative data examined changes in students' confidence as measured by outcome expectations. In virtual labs, students conducted a faculty-designed project and analyzed the data. Student worksheets provided qualitative evidence of the student experience in a virtual lab. Students reported individual growth, self-learning, and appreciation of the shared group experience with a common goal.

Keywords: *Virtual labs, Virtual practicals, Remote experiments, Software project management, Earned value analysis*

1. INTRODUCTION

The concept of a virtual laboratory in the computer sciences is one with many complications. These may relate to the purpose a virtual laboratory is seeking to address, its mode of delivery, the scope of delivery, the experience of both students and tutors, and indeed the suitability of an activity for implementation in a virtual laboratory. [1] The concept also excites opinion, both for and against, in many educational circles. In this article, we will explore these concepts, and others, in the context of a particular class of virtual laboratory, the interactive screen experiment. Before embarking on detailed discussions, we must first define for ourselves what we mean by a virtual laboratory, understand what value it can bring, and importantly what it cannot (and indeed must not) do. In the most general terms, a virtual laboratory is a computer-based activity where students interact with an experimental apparatus or other activity via a computer interface. Typical examples which come to mind include a simulation of an experiment, whereby a student interacts with programmed-in behaviours, and a remote-controlled experiment where a student interacts with real apparatus via a computer link, yet the student is remote from that apparatus. We should distinguish the latter case from a computer-controlled experiment, where a student will directly control an apparatus in his or her vicinity via a computer interface. This gives us a definition of a virtual laboratory – A virtual laboratory is one where the student interacts with an experiment or activity which is intrinsically remote from the student or which has no immediate physical reality. The latter part of this definition may seem to imply that a virtual laboratory can have no physical reality behind it at all.

Virtual lab refers to a virtual teaching and learning environment aimed at developing students' laboratory skills. As one of the most important eLearning tools, they allow the student to

conduct various experiments without any constraints to place or time, in contrast to the constraints of real labs. Virtual labs incorporate various pedagogical techniques that help learners to better understand the theoretical information. These techniques include visual learning, active learning, recall-based learning, gamification & storytelling. They also offer students access to a realistic lab experience that will allow them to perform experiments and practice their skills in a risk-free and interactive learning environment. There are various categories of virtual laboratories. Virtual laboratories are not homogenous, and they largely differ in their purpose, composition, and application [6-8].

2. REMOTE EXPERIMENTS

In the introduction, we have discussed the definition of a virtual laboratory. It now falls to us to examine the concept of the interactive screen experiment in such a way as to distinguish it from other forms of virtual resource, and to understand the benefits interactive screen experiments can bring. In its broadest sense, we can define an interactive screen experiment as a highly interactive movie of an experiment, filmed as that experiment was being performed. By highly interactive, we do not simply mean the movie is capable of being moved forward or backward at different rates – this is trivial interactivity, and would provide minimal educational benefit. It is better perhaps to take a specific example. A screenshot of a simple interactive screen experiment illustrating the relationship between the extension of a spring and the tension in the spring.

3. EDUCATIONAL BENEFIT

Firstly, we will examine accessibility, which may manifest itself in two ways – either students may have reduced dexterity or other attributes which limit their ability to carry through a real experiment, or they may be physically unable (due either to mobility issues or geographic location) to attend a laboratory class. [5] The benefit of an interactive screen experiment in the second case is clear. The experiment is effectively “delivered” to the student in his or her own environment, and using equipment familiar to the student. The first case is less clear, until one realises that in producing the interactive screen experiment, one is at liberty to include non-standard means of controlling the virtual apparatus. In the context of geographical location and/or mobility issues, the use of an interactive screen experiment may provide a substitution for a real experiment. This may seem like using the idea to replace real laboratories, and indeed this is true to a limited extent. We should recognise though that for the student unable to attend a real laboratory for whatever valid reason, a well-designed interactive screen experiment can provide an appropriate substitute. Moving on, a common experience of students, especially those new to experimental science, is that of entering a laboratory and being faced with the intimidatingly unfamiliar. [2-4] Although we may try to prepare students with instruction manuals and preparatory work, these approaches cannot address the fundamental “newness” of the laboratory experience. Closely focused interactive screen experiments can yield significant benefit here through providing training and practice in the use of instrumentation, apparatus and techniques [9,10].

4. WORKING

This section describes the working of vlabs on Earned value management. This is complicated topic in software project management. This topic can be simplified with use of virtual labs. The main page contains the Aim of the experiment, Theory and Procedure. It also Pre-test, Simulation, Post-test, References and Generate PDF. The aim of the experiment is made clear

with the Aim page. Students can read the Aim and Theory behind the experiment in the Theory page.



Earned Value Management

Aim: Using Earned Value Management to Monitor Project Performance.

Broad Goal of the experiment:

- Students will be able to Focus on project performance measurement.
- Students will get a Realistic snapshot of project status.
- Students will have Opportunity to correct the issues.

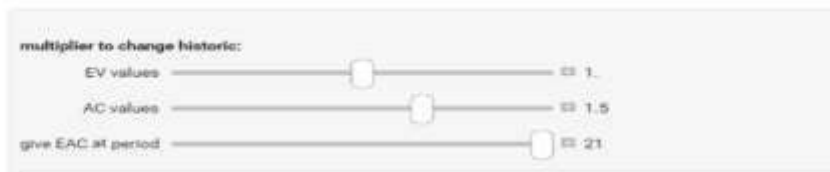
The procedure of the experiment is explained in the Procedure page.



Earned Value Management

Procedure:

1. There are two parts in this experiment.
2. In Part 1, Use the Simulator by clicking on the link: <https://demonstrations.wolfram.com/EarnedValueManagement/>
3. Part 2 Adjust the Earned Value (EV) and Actual Cost (AC) such that the Estimate at completion (EAC) is almost equal to Planned Value (PV). Estimate at completion (EAC); • CPI can be used to produce new cost estimate • Budget at completion (BAC) – current budget allocated to total costs of project • Estimate at completion (EAC) – updated estimate = BAC/CPI



Students are required to study and understand the Procedure page as they need to perform the experiments as per the procedure.

A pre-test is conducted based on the knowledge gained by the student and the score is recorded.

Aim
 Theory
 Procedure
 Pre-Test
 Simulation
 Post-Test
 References
 Generate PDF

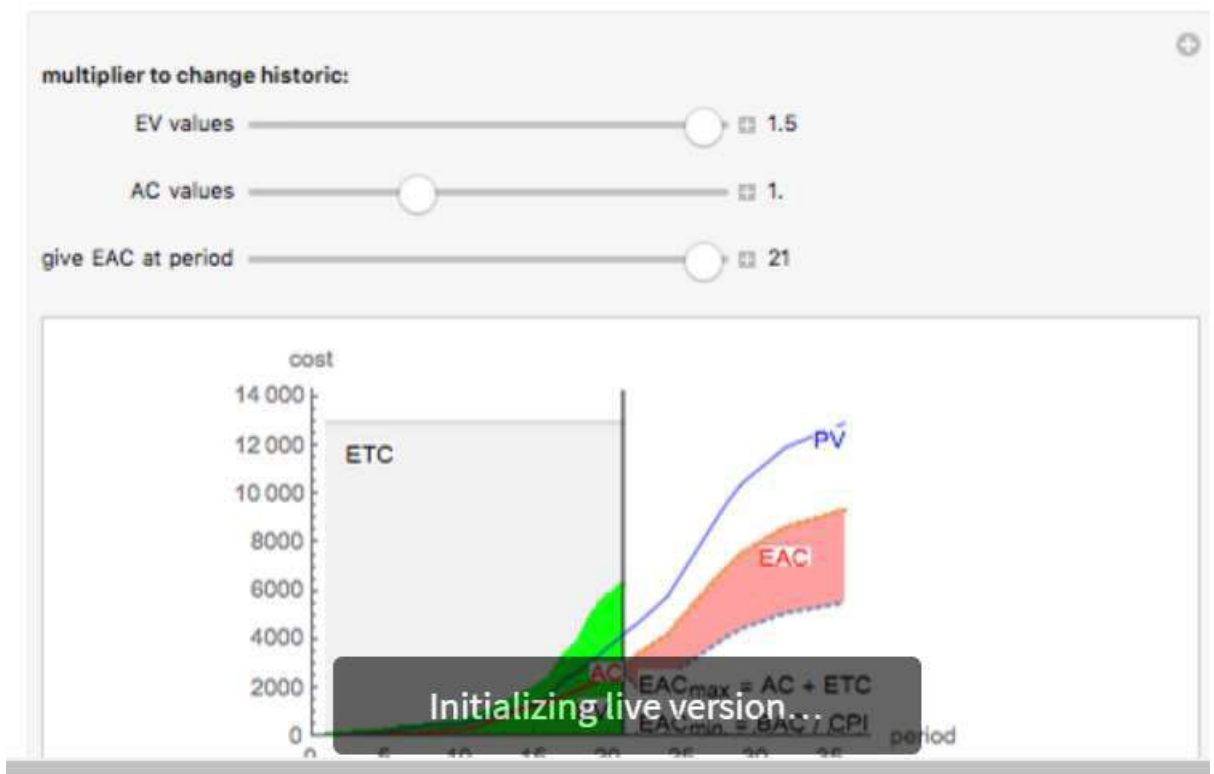
Earned Value Management

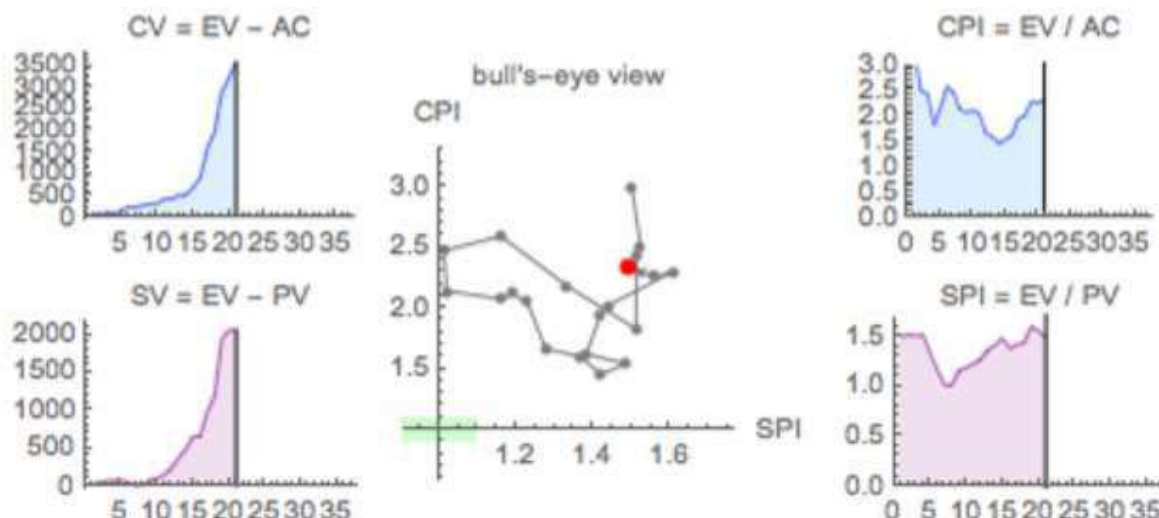
Solve these questions

- In Earned Value Management, PV means _____.
 - a: Profit Value
 - b: Projected Value
 - c: Processing value
 - d: Planned Value
- The budgeted cost for all activities in the project with the help of earned value method is defined by _____.
 - a: Actual cost
 - b: budget at completion
 - c: estimate at completion
 - d: planned value
- Earned value management introduces a method to answer how much has been _____.
 - a: left
 - b: assigned

Students can analyse the graph and adjust the values of Earned value (EV) and Actual cost (AC). They can find the Estimated budget at completion of the project.

Earned Value Management





The Post-test and references was provided for further reading and enhancing the knowledge on Earned value management.

Post-Test:

Task:

Schedule Performance Index (SPI) calculation: $SPI = EV/PV$ SPI measures progress achieved against progress planned. An SPI value <1.0 indicates less work was completed than was planned. SPI >1.0 indicates more work was completed than was planned. Cost Performance Index (CPI) calculation: $CPI = EV/AC$

CPI measures the value of work completed against the actual cost. A CPI value <1.0 indicates costs were higher than budgeted. CPI >1.0 indicates costs were less than budgeted.

For both SPI and CPI, >1 is good, and <1 is bad. Note that if you're in a hurry, for both cost and schedule, you can subtract instead of dividing to get the variance. Schedule variance = $EV-PV$, and cost variance = $EV-AC$. Subtracting can quickly be done in your head, and for these cases, >0 is good, and <0 is bad. But unlike SPI and CPI, variance cannot be effectively compared across projects or over time, where the budget for a project may have changed, because they're relative to the size of the project.

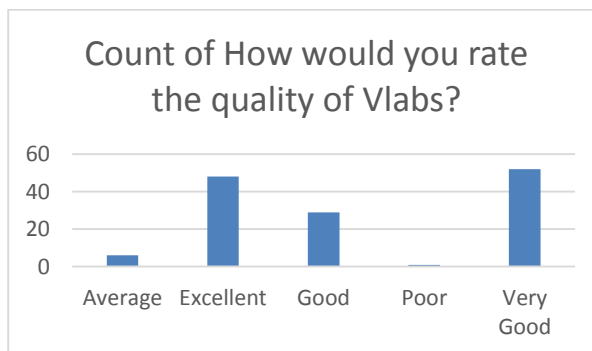
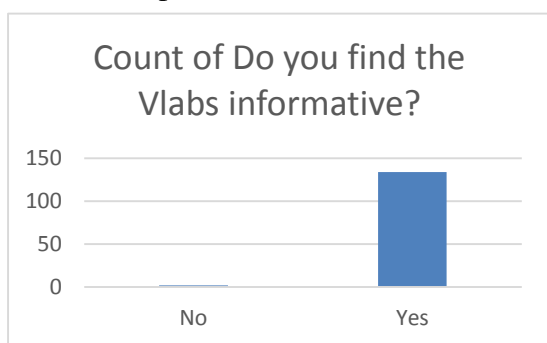
Estimated at Completion (EAC) calculation: $EAC = (Total Project Budget)/CPI$ EAC is a forecast of how much the total project will cost.

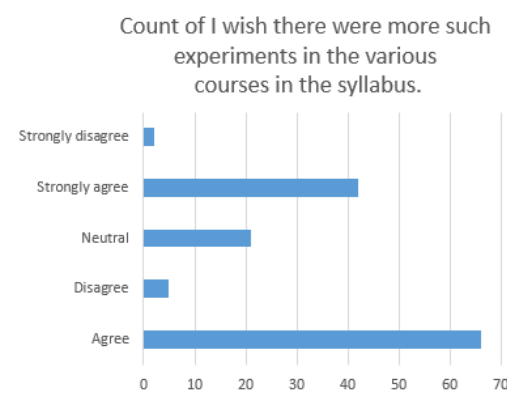
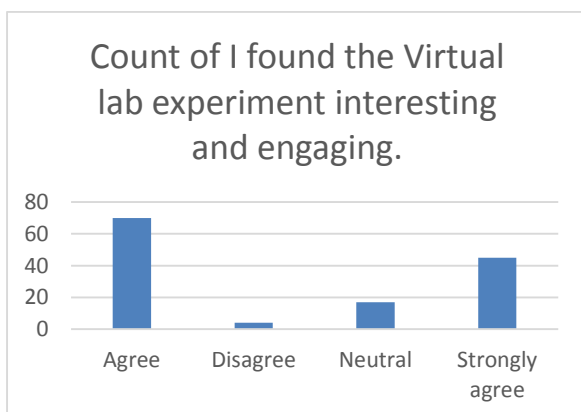
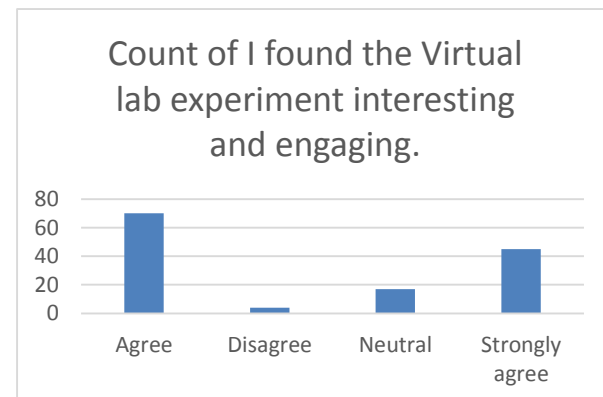
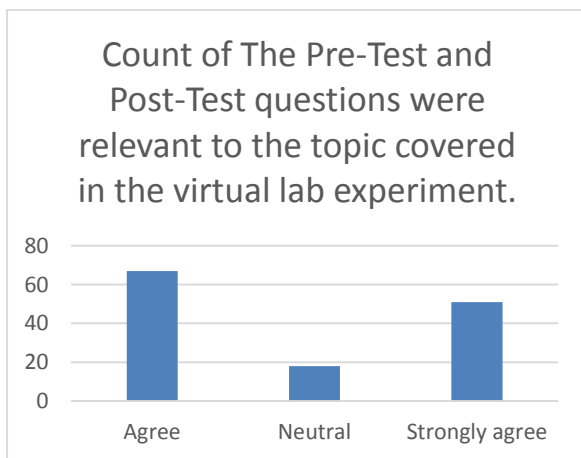
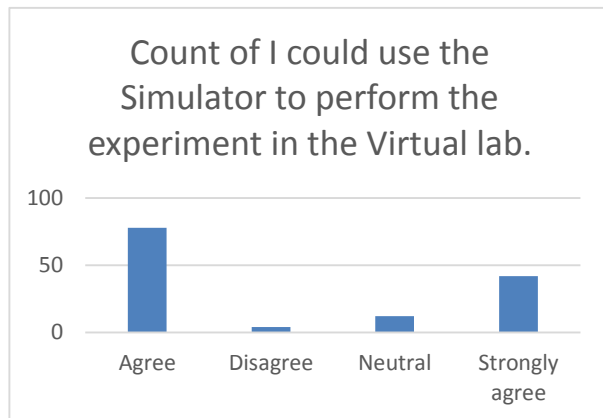
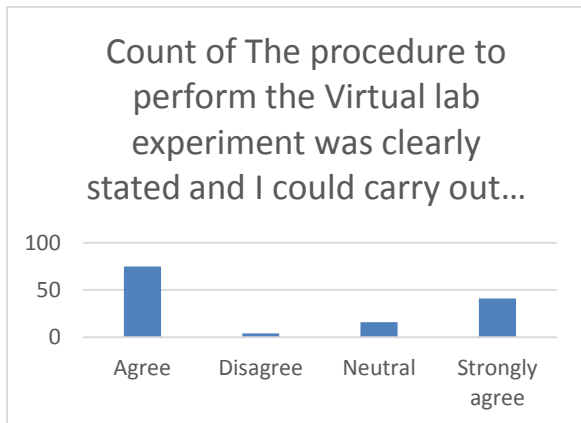
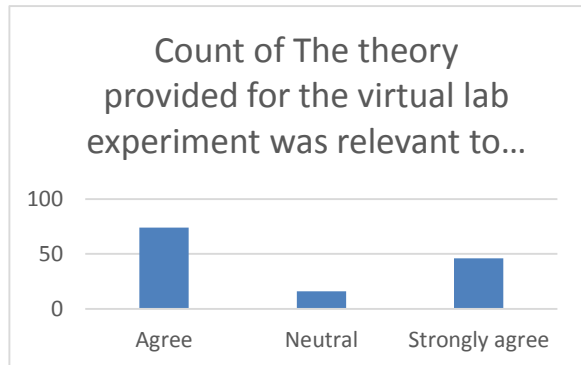
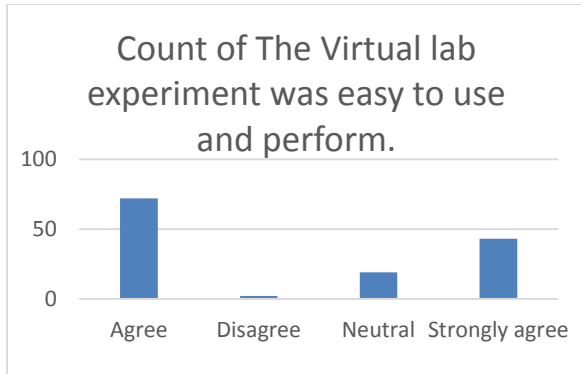
The tab to generate PDF was used to create a PDF of the entire experiment and mail it to faculty after the completion of the virtual experiment.

The feedback was collected from the students regarding the experience of using the virtual labs and learning outcome.

5. RESULTS AND FINDINGS

The feedback collected from the students was analysed to understand the students learning about the topic. It was found that:





Based on the feedback, we analysed that most of the students liked the Virtual labs designed and were able to perform the experiment at their leisure. They were able to understand the concept and perform the pre-test and post-test.

6. CONCLUSION AND FUTURE WORK

The results of the feedback revealed that students were able to enhance their knowledge, skills, intellectual abilities and attitudes. It also increased students' engagement and achievement. It could be concluded that more than half of students participating in the study agreed that practical work activities using virtual labs had positive impact on increasing students' knowledge, systematic process and skills, intellectual abilities, attitudes, and innovation. It is noticed that virtual can be designed for many topics, but is a time consuming process. Also for some topics virtual labs cannot be designed, so it needs to be conducted in the lab in offline mode.

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WOMEN EMPOWERMENT THROUGH E-COMMERCE WEB APPLICATION

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ABSTRACT:

E-commerce involves the processes of selling and buying goods and services through the use of modern communication technologies and the Internet. The success of this form of commerce largely depends on the website through which the sales are carried out. Modern online e-commerce platforms are sophisticated applications that perform multiple functions. They are both a marketing tool that attracts customers, dynamic systems that allow interaction with the users, and the realization of transactions and a portal with useful information about the sold goods and services. For online retailers as well as Local businesses, it's important to understand how effective the website, through which the online sales are done, is. This paper proposes a methodology for evaluating e-commerce websites. Small and Medium Enterprises (SME) have a significant role in the economy of the country, both in contributing to the Gross Domestic Production and total employment. One problem faced by SME is the marketing for this product because product marketing is done by personal selling or media exhibition. The method of this research uses the descriptive method with a qualitative approach. It aims to determine the woman empowerment by e-commerce training.

The aim of the project is to develop a web application control by the user which provides an ease for the user using it. The user can control the application in any direction user wants to. This system provides the facility for accessing the website. It is also a platform where user can learn and share the knowledge. The application is built in such a way that the user can browse the product at any time and at any place. It also has easy payment, shipment and transaction support. In order to understand the strengths and weaknesses of an e-shop, as a basic tool for doing business, we believe it is good to make a comprehensive assessment by means of a system of indicators grouped in the following sets: evaluation of the website's visit ability; evaluation by specific e-commerce indicators; evaluation of the e-commerce website's

functionality; evaluation of the e-commerce website as a marketing tool. The proposed metrics system for evaluation e-shops is of importance to improving business processes, customer relationships, marketing, and management.

Keywords: Women's Empowerment, E-Commerce web application

INTRODUCTION:

One of the implications of efforts to tackle poverty is to intensify the Economic Democracy through the emergence of small business units called Small and Medium (SME). Generally, for developing countries as India SME is one of the economic roles for absorbing large amounts of labour and improving income distribution evenly. Some excellent products include food and beverages, apparel, handicrafts, and processed seafood, handicraft has been regarded as a reliable commodity, but to increase local financial resources in its management is still not optimal.

The role of related local government is the Department of Industry and Trade which can make improvements to the condition of handicraftsmen in terms of giving way and as a distributor as handicraft product. The sustainable empowerment effort by Industry is very important, considering the effort to make handicrafts in better in the global market in India. One form of other support for SME Handicraft can penetrate the global market is to assist how the marketing strategy of handicraft products to be superior. Currently, to introduce the product to the community, the group of SME Handicraft is carried out in various ways such as through personal selling and participation through several exhibitions and related institutions such as malls or exhibitions

However, there are still some obstacles faced by the craftsmen in the area such as problems in terms of marketing, especially through the Internet because of the lack of promotion so many people who do not know, and price competition and also unfair competition. Some SME in Surabaya has not utilized the sophistication of digital technology to support the marketing of their products. By utilizing the internet, they can offer products nationally and even reach the international market. Based on the ability of the web/internet that can transmit various forms of data such as text, graphics, images, sound, animation, or even video, then many businesses are utilizing this technology by creating a homepage to promote their business.

The problem of domination and orthodox is main problem for most of the Indian women and girls in most of the rural and urban area. It's difficult to empower them and teach them about being independent, to solve this problem and show that what being a strong, independent woman means that you can find happiness of your own. And you have self-confidence without having to rely on another person or society for validation so we are making a POIF ("Product of Independent Female") web application in this project we can sell products and share knowledge with easy interface. And guidance by our support team.

The expansion of the internet has become an effective means to open up new marketing channels for SME products. E-Commerce can also be defined as a process of doing business by using electronic technology that connects between companies, consumers and society in the form of electronic transactions and the exchange/sale of goods, services, and information electronically. Therefore, through e-commerce training is expected to manage SME Handicraft Bhartiya poshak Sari where the managers are housewives can be more empowered to utilize social media or even have a personal web as a media to market their products and services.

In response to the phenomenon, it is important to empower the woman managing the SME through e-commerce training. E-Commerce or so-called Internet Commerce has the same meaning, which means a way for a consumer to buy the desired goods online through the Internet network. E-Commerce can also be defined as a process of doing business by using electronic technology that connects between companies, consumers and society in the form of electronic transactions and the exchange/sale of goods, services, and information electronically

LITERATURE SURVEY:

A literature review is a text of a scholarly paper, which includes the current knowledge including substantive findings, as well as theoretical and methodological contributions to a particular topic. It usually precedes the methodology and results section although this is not always the case. Its main goals are to situate the current study within the body of literature and to provide context for the particular reader. In writing the literature review, the purpose is to convey to the reader what knowledge and ideas have been established on a topic, and what their strengths and weaknesses are:

Following are the details of the literature reviewed and their analysis:

Paper Reviewed: Entrepreneurship Ecosystem in the Middle East and North Africa (MENA)

Authors: Nezameddin Faghieh • Mohammad Reza Zali

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Paper Reviewed: Women Empowerment Through E-Commerce Training

Authors: Triana Rosalina Noor¹, Anthoni Suprayoga²

Journal: Small and Medium Enterprises (SME) have a significant role in the economy of the country, both in contributing to the Gross Domestic Production and total employment. One problem faced by SME is the marketing for this product because product marketing is done by personal selling or media exhibition. The method of this research uses the descriptive method with a qualitative approach. It aims to determine the woman empowerment by e-commerce training. The research subjects consisted of nine women as an SME manager, which is SME handicraft. The research data obtained by observation, interviews, and documentation. This research held on February-March 2017.

Paper Reviewed: A System for E-Commerce Website Evaluation

Authors: Assoc. Prof. Ph.D. Snezhana Sulova

Journal: E-commerce involves the processes of selling and buying goods and services through the use of modern communication technologies and the Internet. The success of this form of commerce largely depends on the website through which the sales are carried out. Modern online e-commerce platforms are sophisticated applications that perform multiple functions. They are both a marketing tool that attracts customers, dynamic systems that allow interaction with the users, and the realization of transactions and a portal with useful information about the sold goods and services. For online retailers as well as for software developers, it's important to understand how effective the website, through which the online sales are done.

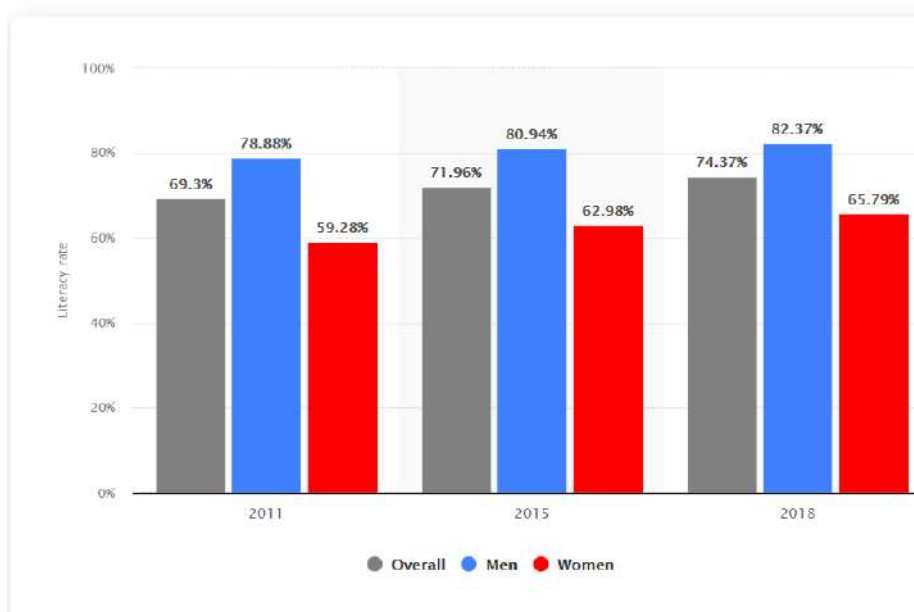
APPLICABILITY:

The main Applicability of POIF is to provide knowledge to illiterate women and empower them financially by providing them easy interface designed website where they can sell their handmade, homemade creative and useful products. Because of easy interface and advanced functions women can upload and sell products in few clicks. Other than this they can share their knowledge as well as learn new skills from the expert on the website itself.

Problem Definition

1. Problem of domination and orthodox is main problem for most of the Indian women and girls in most of the rural and urban area.
2. Difficulty to empower and teach women about being independent
3. Selling homemade creative product on minimum cost.
4. Women need to be aware that they did not need to be dependent on someone else for their financial and basic needs.
5. Less knowledge about the digital world.
6. More Commission charged for selling products and less cost of the actual product.
7. Less priority to creative and homemade genuine products.
8. Making people aware about make in India products and its culture.

India: Literacy rate in 2011, 2015 and 2018, by gender



DISCUSSION:**Empowering Women Through E-Commerce Website:**

Empowerment woman program is very important, not only as an effort in improving the family economy but also means in the development of self-potential. The hope can be a more productive person and can sustain and help meet the needs of his family or himself. The target of this training is housewives who have business incorporated in Local business handicraft. This training teaches the housewives how to use online media to promote the goods they sell. Based on interviews with the coordinator of handicraft that the housewives who have business handicraft is not fully understood about the utilization of online media in promoting its products. During this only rely on the exhibition as a means of sales promotion. Previously, housewives who have handicraft business was once directed to have started utilizing online media in the process of selling products, but still cannot in the application. Based on these baseline data, researchers decided to help females managing handicraft to assist the development of their knowledge through e-commerce website. The training methods used in this website are lectures and direct practice with the proportion of 30% using the lecture method, while 70% more using the practice method. Hopefully, the housewives can learn more quickly, responsive and understand with what is delivered. This training begins by introducing how important it is to utilize online media as a means of product promotion. Learning is directed by still using Android based mobile phones, not laptops. This is because the average of them does not have a portable computer. Although only using Android-based mobile phones, the training process is still directed to making the web business and products so that they sell in their local market. The success indicator of this program can be measured from the extent to which its learning residents can absorb and implement the results or skills acquired during the training of e-commerce, namely the mastery of the housewives to the material presented. In general, data on the success of this program is that there are six of the nine housewives managing handicraft already familiar with the use of online media and start promoting the products they have, whether through Facebook or blog. Specifically, there are six of nine Handicraft managers have been able to implement training materials in promoting their products. One of six of Handicraft managers can create a blog and try to practice it in promoting the products it sells. Based on her success on operating blog as marketing media, becomes a good effort for other SME managers. Hopefully, she able to teach other SME managers to

create the web privately. It because blog or website will be a shortcut to introduce their products brands globally and internationally.

CONCLUSION:

Based on the research that has been done got a result that is about an E-commerce web application that will be used by the Indian females. In this web application they must sell their handmade products and show their skills and talents, they can also earn through this web app buy sharing their knowledge. Making women realise their worth”: - I assume understanding your self-really well worth, and status up for what you deserve, is so underrated. Especially in girls. however, I wholeheartedly suppose that girls doubt there well worth some distance too often. so due to the fact we’re making this internet site to realize that even girls may be as advanced as men

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A STUDY ON MOBILE APPLICATION DEVELOPMENT

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ABSTRACT:

Gone are the days when the cell phone needed to ring to catch our consideration, or the PC was the main gadget individuals utilized. The portable application field has been increasing at a colossal rate with the intense increment in the quantity of versatile applications in different cell phones and tablets. Portable applications are fundamental as they give functionalities that can server helpful purposes, for example, finding an area or booking film tickets on the web. In the present quick paced world, portable promoting is getting exceptionally serious.

Keywords- Mobile Phone, Mobile Application development, Mobile apps.

INTRODUCTION:

Application development is the process of designing, building, and implementing software applications. It can be done by massive organizations with large teams working on projects, or by a single freelance developer. Application development defines the process of how the application is made, and generally follows a standard methodology. There are lots of factors that go into how application development is done. You must consider the size of the project, how specific the requirements are, how much the customer will want to change things, how large the development team is, how experienced the development team is, and the deadline for the project. Some of the most common problems new programmers face to learn how you can gain perspective and fix your own issues.

– Not Understanding the User: In software development, user centricity isn't an option — it's a priority. Of course, to make any software user centric, you have to know what users want.

Debugging: After working for days to perfect a program, you go home satisfied that it will work like it's supposed to. When you come in the next day, your colleague from quality assurance (QA) gives you a long list of bugs to work through. The "Cancel" button on the web form isn't clickable, the grammar on the error messages isn't right, and the software has other errors that are causing hitches in the user experience.

Keeping up with Technology: As technology continues to grow and expand, programmers need to keep up. Frameworks, tools, and libraries become out-dated pretty quickly. For example, front-end frameworks usually last for a year or two before new, updated versions come along.

A widely cited study for the National Institute of Standards & Technology (NIST) reports that inadequate testing methods and tools annually cost the U.S. economy between \$22.2 and \$59.5 billion, with roughly half of these costs borne by software developers in the form of extra testing and half by software users in the form of failure avoidance and mitigation efforts. The same study notes that between 25 and 90 per cent of software development budgets are often spent on testing. This posting, the first in a two-part series, highlights result of an analysis that documents problems that commonly occur during testing. Specifically, this series of posts identifies and describes 77 testing problems organized into 14 categories, lists potential symptoms by which each can be recognized, potential negative consequences, potential causes, and makes recommendations for preventing them or mitigating their effects. (Donald Firesmith- Article)

OBJECTIVES:

The world of mobile applications is vast as it provides faster access to content and interactions with customers smoothly. It helps business to grow by establishing a connection with every interested people. However, you must be clear about your objectives before deciding to build a mobile app for your business. We bring to you a few business objectives by which you can harness the power of mobile apps:

- A mobile application provides a platform to companies by which they can get engaged with their customers in real-time.
- By developing a mobile app, you can give your customers simpler and more efficient platform to use your products or services.
- You can increase your business by promoting it by offering coupons.
- Through a mobile app, a customer can order any of your product or service.

METHODOLOGY:

Waterfall: The key words for the waterfall method of application development are planning and sequence. The entire project is mapped out in the planning and analysis stages. The

customer comes with a very explicit list of features and functionalities for the application. Then, a project manager takes the whole process and maps it out amongst the team. This application development method is called waterfall because once you go down, you can't go back up; everything flows downward. The development team works together over a set of time, building exactly what is lined out according to the specifications. After the architecture is designed, then only can the construction begin. The entire application is built, and then it is all tested to make sure that it is working properly. Then, it is shown to the customer and ready to be implemented. The waterfall method assumes that the project requirements are clear and the customer and project manager have a unified and clear vision about the end result.

The advantage of the waterfall method is that it is very meticulous. It's also a good application development method to use for big projects that need to have one unifying vision. The waterfall method is also a good way to train junior programmers on parts of development without having to turn an entire project to them. The disadvantages are that changes happen all the time. Even if the development team is able to build exactly what the customer originally wanted (which doesn't always happen), the market, technology, or the organization may have changed so much that it is effectively useless and a waste of time.

Rapid Application Development (RAD): As you might imagine, the waterfall method of application development presented some big problems. The development process often took a long time to see a working product, teams had to be large to accommodate all the requirements, and tensions ran high when a customer is unhappy with the end product and the whole project has to start over from the beginning. So, a new method emerged called rapid application development (RAD).

In many ways, RAD was the opposite of the waterfall method. RAD is based mostly on prototypes, meaning that the goal is to produce a working version of the application as quickly as possible, and then to continuously iterate after that. The application development team and the customer work very closely with each other throughout the process. RAD teams are usually small and only involve experienced developers who are skilled in many disciplines. If a project needs to divert from the original plan, RAD should be able to accommodate that easily. In the RAD model, as each iteration is completed, the product gets more and more refined. The early prototypes are often very rough, but give a picture of what can be. Each iteration then looks more like the finished product.

RAD's advantages are a quick and highly flexible team and a very close relationship with the customer. If changes are expected, RAD will be able to accommodate these much faster than

waterfall. RAD is also never too attached to a prototype and is always willing to change it to suit the needs of the customer.

However, RAD isn't a perfect application development method. RAD requires highly skilled (and highly paid) programmers to work on a project that may change in complexity by the day. There's also less adherence to deadlines and more of a focus on adding features, which can extend delivery dates. RAD requires a lot of input from customers who may not always be available or know what they need. Additionally, for some applications, having a prototype is not useful without seeing the entire product.

Agile: Agile application development is very similar to RAD, but also includes some changes to make it more suitable to larger projects. Agile is iterative, like RAD, but focuses on building features one at a time. Each feature is built in a methodical way in the team, but the customer is involved to see the features and sign off on them before the next feature is developed.

Agile uses sprints, or set of time when a certain feature should be built, tested, and presented. It tries to incorporate the entire SDLC for a feature into each sprint. This, ideally, helps to stick to a planned schedule, but also allow for frequent reviews.

Agile doesn't focus on prototypes, but only presents completed work after the sprint is over. So while the customer is informed more often than waterfall, the customer only ever sees finished work, unlike RAD.

Agile methodology is also more team or squad based. With RAD, you are working directly with a programmer. With Agile, the application development team will also include testers, UX designers, technical writers, and many others.

RESULTS:

User Experience (UX): Over 75% of survey participants confirmed "user experience" as the deciding factor in mobile apps and prototype designing to be a crucial entity. In order to get an excellent user experience, a customer should feel comfortable in gadget interaction and feel smart enough to accomplish any task with intuitive use, without any tutorial or additional help. For highly productive user experience and good mobile app designing, it was recommended to

consider characteristics such as Quick Start-up time, responsiveness, and focused application purpose when designing, building, and testing the mobile apps.

User Interface (UI): The mobile apps should be designed to match the look-and-feel of the targeted mobile environment. User experience expertise and knowledge of the target mobile environments standards (both UI and code level) were important to provide users with a pleasant and consistent application. It was suggested by the survey participants that the services developed for mobile devices should take into account user's interaction, situation and information required while using the device. In addition, the participants believed that functions such as "Back" and "Exit" option should be mandatory and must be included in the mobile apps. Further, there should be closely guided usage paths that suggest the next step to the user, rather than offer multiple paths.

Interaction with Information Sources: Since native mobile app requires interaction with information sources for data transfer, it must communicate with predefined content and data sources to fetch information and return results. According to 60% of the participants, to build a great mobile app, a flexible and extensible set of connectors to quickly integrate native mobile app and backend information sources should be provided by identifying the data sources, taking into consideration how frequently information is updated on the devices, and the extent of data that flows across the network.

Integration with Other Apps: About 35% of the participants emphasized that integration with other apps and data on the user's device should be tested (wherever appropriate), and verified before the deployment and market release. 5. Action Feedback: Majority of the participants were of the opinion that the mobile customers should get an 'acknowledgement' instantly upon performing an action. They believed that the worst response was that the device remains unresponsive and does nothing and leaves the users to speculate whether their action was recorded or not. 6. Error Notification: Approximately 10% of participants believed that error handling in mobile apps have to be effective such that it will have minimum effect on user and may be quickly notified and communicated to users.

DISCUSSION:

The mobile device market has witnessed swift industrial growth over the last decade. The quick expansion of this new computing platform has almost outpaced the software engineering processes customized to mobile application development. However, there is still lack of novel

research initiatives around the mobile application development process. There remains a deficiency in development standards and best practices which expose the mobile device to potential attacks. This deficiency needs to be addressed promptly and requires further work. The objective of this research is to better understand the current methodologies adapted and to investigate challenges faced during the mobile application development processes that are different from traditional enterprise application. For this purpose, an online survey was conducted from the mobile research and development community. The survey questions covered the entire mobile application development lifecycle starting with requirements and ending with bringing to life a complete mobile application. The study contributes towards a greater understanding of mobile application development process, examines real challenges confronted, and investigates the best practices that can be successfully implemented to enhance, evaluate, and improve the performance of the mobile application development process. These findings can also be considered as a possible research topic that indicates the breadth of research requirements and prospects in mobile computing

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ANDROID TECHNOLOGY BASED DIABETES MANAGEMENT SYSTEM (CLOUD BASED)

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ABSTRACT:

Diabetes is a chronic disease, increases worldwide caused by an absolute or relative deficiency of insulin. It results in an excessive amount of glucose in the blood associated with a range of severe complications including renal cardiovascular diseases and blindness. If diabetes is in control properly then the disease will decrease. For these reasons, it required correct educational awareness and routine health check-ups. Doctors help in the effective diagnosis and treatment of diabetes this associated high cost. Therefore, a diabetes management system with a friendly user interface, such as a hand-held device is necessary. Among the hand-held mobile phone operating systems android is the most popular. This project presents the development application for diagnosis for the treatment of diabetes.

Keywords: Diabetes mellitus, management, obesity, diabetes and android.

INTRODUCTION:

India is rapidly emerging as the diabetes capital of the world. Currently, there are approximately 63 million diabetics in India, second only to China, this figure is likely to increase substantially by 2025. Patient education and self-care practices are important aspects of disease management that will help people to stay healthy. Diabetes is a group of diseases marked by high levels of blood glucose, Ignorance about Diabetes may develop serious complications such as heart disease, stroke, kidney failure, blindness, and premature death hence a user-friendly mobile application Diabetes management system will help the patient get his results and proper management of his glucose sugar anywhere at any time. Using a cloud system, the patient can send his blood sugar reports to his doctor without physically being present and get proper management by the doctor wirelessly. Diabetes Manager allows you to

quickly and easily keep track of everything you need to manage your diabetes. This has features such as, Quickly and easily tracking blood glucose, the Ability to add/delete records, to suit your needs, easily keeping track of your daily average glucose levels. We are using web hosting makes it easy to set up, operate, and scale a relational database in the cloud. It provides cost-efficient and resizable capacity while managing time-consuming database management tasks, freeing you up to focus on our applications. We are also using Elastic Beanstalk; you can quickly deploy and manage applications in the cloud without worrying about the infrastructure that runs our applications. It reduces management complexity without restricting choice or control.

Literature Survey:

A literature review is a text of a scholarly paper, which includes the current knowledge including substantive findings, as well as theoretical and methodological contributions to a particular topic. It usually precedes the methodology and results section although this is not always the case. Its main goals are to situate the current study within the body of literature and to provide context for the particular reader. In writing the literature review, the purpose is to convey to the reader what knowledge and ideas have been established on a topic, and what their strengths and weaknesses are.

LITERATURE SURVEY:

Following are the details of the literature reviewed and their analysis:

Paper Reviewed: Android Diabetes Management System

Authors: Morium Akter, Mohammad Shorif Uddin.

Journal: International Journal of Computer Applications (0975 – 8887) Volume 110 – No. 10, January 2015.

The project is based on implementing for diagnosis and management of the diabetes system. In the diagnosis and management option, the system takes user input data for the diagnosis and management. In the stored report lookup option, the system helps in displaying a patient's report. They have implemented their android application for the management of diabetes with hypertension using Eclipse programming language by rule-based approach.

Paper Reviewed: The Value of Information Technology-Enabled Diabetes Management.

Authors: Davis Bu- MD-MA, Eric Pan- MD- MSc, Janice Walker- RN- MBA

Journal: © 2007 by the Centre for Information Technology Leadership.

The intention of this paper is to for giving the outlook for patients as better knowledge of

diabetes provides them a broader array of options. At the point of care, registries may generate concise patient reports for clinicians that highlight areas for attention during the office visit. Registries may also aggregate information across the population to generate “report cards,”. Clinical decision-support systems (CDSSs) generate alerts and reminders for clinicians during a patient visit. Such communications may caution providers about potential errors or remind them of recommended guidelines for improving the quality of care.

Paper Reviewed: Patient Monitoring System Using Android Technology.

Authors: Prema Sundaram Journal: International Journal of Computer Science and Mobile Computing. A Monthly

Journal of Computer Science and Information Technology IJCSMC, Vol. 2

Telemedicine can be applied to a greater extent in the field of cardiology where ECG serves as the major tool. This project elaborates the experience; a methodology adopted and highlights various design aspects to be considered for making telemedicine in patient monitoring systems effective. In this method, the patient’s vital signs like ECG, heart rate, breathing rate, temperature, SpO2 are captured, and the values are entered into the database. It is then uploaded into the web-based server and sent to the doctor’s phone using ANDROID technology. It also enables the doctors to instantly send back their feedback to the nurse station.

PROPOSED OF SYSTEM:

The proposed system if it is dangerous generates a different colour text.

A user-based login system will contain a selection of doctors.

The time is saved by giving the confirmation.

Once the doctor gets the readings he can suggest/feedback to you to overcome them.

As well as payment modules are there so u can pay the doctor easily.

As well as the patient and doctor in case they forget the password then they can change also.

RESULTS:

The patient can enter a value in the diabetes manager Android Application. This data is stored on the diabetes manager web. That data goes to JSP Servlet services for further processing then these data go to MySQL RDS database for storing purposes. By using AWS Elastic Beanstalk users can quickly deploy and manage their data. Using Elastic Beanstalk patient data permanently stored on Amazon EC2 cloud. Once the patient had registered it gets saved in the cloud server and sends the message it’s been successfully registered same goes with the doctor

than the doctor request for records to the cloud server. the cloud server asks for the record of the patient once it is entered it gets to save in cloud server the cloud server gets the record and the suggestion to report that report to calculate the record and suggestion update to a cloud. the request generated by the doctor before now the doctor had received it and sent the results.

- **Doctor registration:**



The screenshot shows a mobile application interface for 'Doctor Registration'. The title bar features a red cross icon and the text 'Doctor Registration'. Below the title, there are several input fields: 'Name', 'Email', 'Phone Number', 'Password', 'Confirm Password', 'Designation', and 'Department'. Each field has a corresponding icon to its right (person, envelope, phone, lock, lock, and dropdown arrow). At the bottom of the form is a blue 'REGISTER' button. Below the button, there are two icons: a green checkmark on the left and a red X on the right.

- **Patient Registration:**



The screenshot shows a mobile application interface for 'Patient Registration'. The title bar features a pill and blood drop icon and the text 'Patient Registration'. Below the title, there are several input fields: 'Name', 'Email', 'Phone Number', 'Password', 'Confirm Password', 'Address', 'Blood group', and 'Test'. Each field has a corresponding icon to its right (person, envelope, phone, lock, lock, dropdown arrow, and dropdown arrow). At the bottom of the form is a blue 'REGISTER' button. Below the button, there are two icons: a green checkmark on the left and a red X on the right.

ADVANTAGES AND DISADVANTAGES:

Disadvantages:

1. The existing procedure, which was studied for developing a new system, was manual one.

2. It is inconvenient as you required to visit the doctor personally.
3. It's time consuming.
4. It's not possible to available whenever required.

Advantages:

1. The proposed system if it is dangerous generates a different colour text.
2. A user-based login system will contain a selection of doctors.
3. The time is saved by giving the confirmation.
4. Once the doctor gets the readings he can suggest/feedback to you to overcome them.
5. As well as payment modules are there so u can pay the doctor easily.
6. As well as the patient and doctor in case they forget the password then they can change also.

FUTURE DEVELOPMENT:

- In future in order to Android-Cloud application for blood pressure value and ECG value.
- we are also planning to add transaction process so need to visit patient to doctor, doctor send perception via application system.

CONCLUSION:

This Project studies previous diabetes management system and proposed new application that base on cloud. This app is very users friendly and easy to manipulate data. Most people with diabetes need to know the exact time of their blood sugar readings and this app puts your reading time and date. This Mobile app becomes useful enough so that patient who find it difficult to go to the clinic and view the logbook may find easy through the app, so that their time is not wasted for go and meet the Doctor. This proposed system generates the high vales in different colours. The time is saved giving the confirmation. The app is always on so there's no need to stop and start just carry your phone in your pocket and bag.

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Gas Leakage Detection with GPS navigation

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ABSTRACT

In this paper a Gas leak detection security system has been implemented for identifying gas leakage in closed environment. The leakage can be identified by using various sensors. However, many such cases can lead to a loss of properties and harm human life. The implementation of this approach is useful for many companies, house owners and car owners which can save lives. This can be also used as an application in chemical and hazardous industries where there is a continuous need of monitoring gas leaks. We can find the different types of gas leak with the help of different types of sensors. This system will be super-efficient for car or the persons who drives. Many times, such situation has occurred where people carelessly leave their children or pets locked inside their car which can result into death by suffocation due to harmful gas. This system will be useful here as it will detect such leaks and send an alert to three different personals which also includes fire department. Such leaks can cause a huge blast. This system will counter such incidents by sending the exact coordinates of the location to the emergency department and the owner of the vehicle.

Keywords: *Gas leak, Leak detection*

1. INTRODUCTION

LPG gas is a mostly used gas in the resident and urban sector as it is not costly and easily available. LPG gas can be used in the vehicles like car, rickshaw and at different service station. The gas is heavier than normal air and stay at the low-level and spread fastly in case leakage occurs. A continuous monitoring is required for the safety measures at industrial and residential areas. Sometimes, A gas leakage from cylinder may cause damage to the human life. LPG gas Sensors are used to overcome such problem in day-to-day life.

LITERATURE SURVEY

A monitoring system for gas leakage is important for the security of human being. Nowadays, wireless sensors network and integrated system have been widely used for detecting gas-leakage in present environment [1].

Somov A, Baranov A, Spirjakin D, et, al. used Wireless Sensor Networks (WSNs) along with catalytic gas sensors and ZigBee module implemented and used in many factories. Response under various scenarios are collected from catalytic gas sensors, and calculated result based on the Received Signal Strength Indicator and Link Quality Indicator metrics [2].

Jain P C, Kushwaha R identified various WSNs with semiconductor sensors and ZigBee module for residential areas like residents and industrial pipelines of oil and gas. Investigations are conducted to study the interaction between sensors and coordinator [3].

Frish M B, Wainner R T, Green B D, et al implemented a gas leakage detection system based on Tunable Diode Laser Absorption Spectroscopy (TDLAS) and calculated its usefulness in real time environment [5].

Xu B, Yu D, Wu J, et al have suggested a airborne infrared laser leak detection technology, and illustrated the airborne infrared laser leak detector can identify the leakage when the helicopter flies with the rate of 30-50m/s and the flight height less than 80m. [6].

PROBLEM STATEMENT

To avoid explosion due to gas leakage or death by suffocation from gas leakage. Improvised version of gas leak detector.

- Less effective and time consuming
- Cost is very high
- SMS alert can be ignored which can result into explosions

2. OBJECTIVE

The different gas sensors will be used for the detection of a dangerous gas leakage in various gas station, cars, storage tanks and homes. The circuit are built with sensor attached with alarm to give an alert to the operators through a buzzer sound in the region where the gas leak is occurring. This system also helps us to detect the different types of gases like cigarette smoke, toxic gases, combustible, LPG etc.

The main objectives of our proposed system are as follows:

1. Monitoring Gas leakage
2. Providing a sensor to detect various types of gas.
3. To detect harmful gas leaks and send an alert to respective personals which includes fire department
4. To raise knowledge about gas leakage and their consequences so that people can be careful in the future.

PROPOSED METHOD

The objective of the proposed system is to implement a smart automatic gas leakage detection system. It is specifically used for homes, offices, industries etc. The alert system will be installed at each floor of the buildings and used to identify the gas leakage also sensors are used for detecting leakage. The main idea is to design a low-cost system that will be easily manufactured and portable yet systematic gas leakage detection system that make sure security for households, offices and industries.

If the gas level crosses the threshold level, then user will receive the SMS through GSM. The system turns on the buzzer to notify the person nearby to the system and also at the same time Relay is turned on. As Arduino is having an inbuilt Analog to Digital converter system that is why need not to connect any external devices.

This system is benefits in cases when there are senior citizens, small children in house. Due to carelessness, there might be gas leakage which can lead to measure accidents. The system can avoid such incidents by sending an alert SMS to the house owner or by turning Buzzer at the same time

At the same time the user receives the coordinates of the location through sms alert so that it will be easy to track down the user if he is driving or at steady state.

This system will help user who accidentally leaves their children and pets locked inside their car.

The fire department or the emergency service provider will also receive this alert with GPS coordinates so that it will be easy to track down the spot.

If implemented correctly this system will extremely useful for companies, households or user who drives etc.

The systems consist of following components like:

1. **Arduino Nano**
2. **Micro Controller**
3. **Gas Sensor**
4. **Weight Sensor Display**
5. **GSM modem**

RESULTS and DISCUSSION

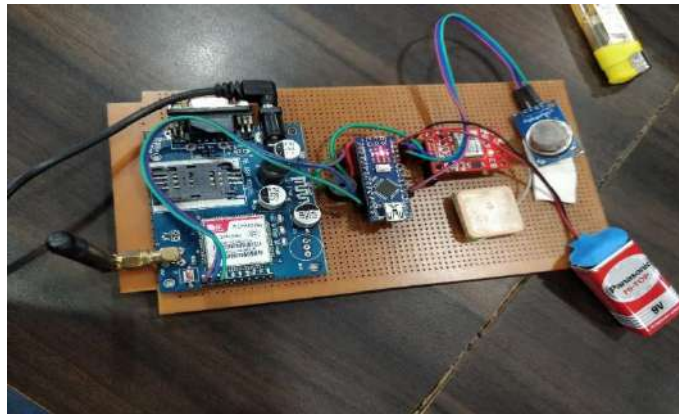


Figure 1: Arduino Nano

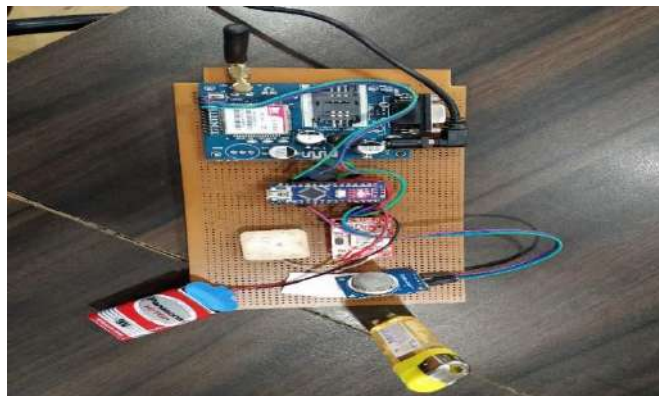
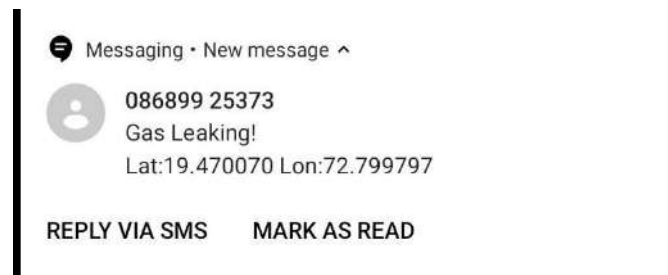


Figure 2: Circuit Diagram



With the help of this message user can be alerted about the gas leak and user can take necessary precautions to avoid it. With the help of GPS coordinates it will be easier to track down the location of the spot where gas leak occurred.

3. CONCLUSION & FUTURE WORK

Gas leakage leads to severe accidents which results in human loss and it occurs mainly due to bad maintenance of equipment's and less awareness of the people. The system plays an important role to prevent accidents and to save human lives. The system is simple and reliable.

Advantages of this system:

- If there is any gas leakage it will be detected automatically and will avoid accidents
- People and companies will be aware about the gas leakage advantages and disadvantages.
- Real time notification of gas leakage and location through SMS.
- Security system will boost up and people be aware about the consequences.

The current system can be further enhanced by making the use of Bluetooth instead of GSM which can be used to send the alert messages to user. Robot can also be used for detecting multiple gas concentrations. Along with this temperature sensor can be used for identifying high pressure gas in cylinder pipe and if temperature is reached at high level, it will generate an alert message to inform peoples.

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THE FUTURE OF INTERNET: WEB 3.0

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ABSTRACT:

The World-Wide-Web is increasingly used for application-to-application based communication. The dynamic interfaces made available are referred to as web services. The web has been evolved in three stages of internet growth. The earliest stage, Web 1.0, was about bridging information and getting familiar with the net. Web 2.0 emphasizes user-generated content, ease of use, social networks, and interoperability. The upcoming stage which is Web 3.0. is starting now, it aims to create a level of transparency, where smart contracts will control user data and transactions instead of centralised organisations which truly focuses on decentralisation.

INTRODUCTION:

Through recent development in Artificial Intelligence, it is now embedded in almost every user interaction on the web. Advanced algorithms have been created to analyse and deduce the data generated by user interactions to suggest related articles or products based on their preferences. The Web 3.0, where machines will eventually process information better than a human's intellect. Thus Web 3.0 is an era of machines which understands all Semantic Web data and would solve issues with optimization through machine learning also providing an ideal premise for a digital environment where data can be exchanged between devices (Internet of Things). However, the flow of Web 3.0 has headed towards another direction after the rise of block chain. All predictions regarding Web 3.0 formed before Block chain were shattered by overestimation of machine learning and the lack of actual implementation. Web 3.0 describes an optimistic future for the internet but does not fix the existing problems created by Web 2.0. Web 3.0 with block chain technology would provide a solution for the drawbacks faced in the current internet and be compatible with the Semantic Web at the same time.

With the introduction of Block chain concepts like NFT, DeFi, DApps, DAO, etc have revolutionized Web 3.0. In recent years' smart contracts have led to the emergence of various

applications on the Block chain, one of which is non-fungible tokens (NFT). NFT is a digital container in which you can save any information like music, graphics, program code, document, etc. When a token is issued, it is not possible to change the information in it. But NFT can be transferred, like Bitcoin/Ethereum, from one crypto wallet to another. Meaning, the owner of the NFT can change. The ownership of the NFT can be confirmed because its authenticity can be checked on the Block chain-network.

Next, we come to Decentralized finance or DeFi for short is an umbrella term for services like lending, borrowing, investing, and trading based on decentralized, non-custodial infrastructure. Block chain and cryptocurrencies started the conversation on how we can democratize the global economy, but it's DeFi that is going to get us there.

DAO is defined as a decentralized autonomous organization that utilize smart contracts with already approved programmed rules for self-regulation. The major advantage of DAO is that we don't need to worry about legal norms and most human factors, such as corruption and fraud. DAO ensures transparency and accessibility in the management of the system by investors.

A DApp (Decentralized Applications) has its backend code running on a decentralized P2P network, unlike an app whose backend code functions on centralized servers. The significant advantage of it is that the users are not supposed to depend on one centralized computer or server for conveying and accepting the information.

OBJECTIVES:

The framework of Web 3.0 has a few key principles on which all its objectives, goals, and the model work on, they are as follows:

- Users get more control over their data, including on-device data.
- Rise in independent creators who can create and monetize their content more directly with their followers, NFTs being a great example.
- Trust-less transactions, Block chain ledger are dictated by smart contracts and other hard-coded protocols, meaning that users can rely on the validity of the network's performance or output without the necessity to trust anyone else on the network.
- Flexible or personalised payment systems aimed at decentralization.

Existing & Upcoming Methods

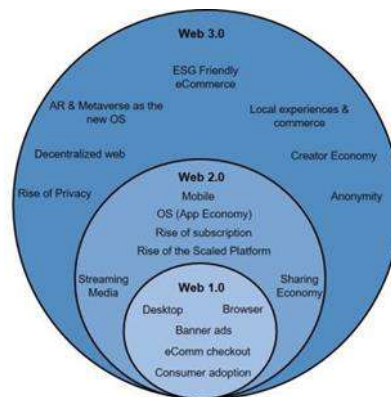


Figure 1: Evolution of Decentralised Web, Web 1.0 → Web 2.0 → Web 3.0

ESG friendly e-commerce:

ESG meaning Environment, Social and Governance, which invests in companies or businesses that not only produce profits but also look upon their impact on the environment, people, and the planet. Consensus Algorithm like Proof of Work (PoW) is an ultra-inefficient process that results in tremendous energy waste. In comparison Proof of Stake (PoS) will cut Ethereum's energy consumption by as much as 99% in the switch from 1.0 (PoW) to 2.0. PoS is much more scalable to high numbers of transactions without slowing the network or costing extra energy, rewards are much more reliable and equitable.

Rise of Privacy:

Cryptographic wallets can be used to complete transactions so that we don't have to give up highly sensitive and valuable personal information. Centralized system on the web will become obsolete and users will be able to interact directly using Public-Private keys.

Pseudonymity:

Block chain-based identities aren't completely anonymous but are a pseudonymous identity. There are predictions that web 3.0 will succeed in privacy & security where previous models and iterations of the Internet have failed badly. Transparency of privacy is the reason behind a pseudonymous identity because various Block chain technologies work on publicly viewable ledgers, meaning all transactions occurred can be incepted and are attainable. But the task to obtain the digital footprints is not that easy, since it can only be exploited someone has their private keys attached to one's wallet and identify the wallet key owner.

Decentralised Web:

The Decentralized Web is a chain of independent, interconnected, privately owned computers that work together to provide secure, private, censorship-resistant access to information and services. Also, Web 3.0 is expected to be powered with Artificial intelligence with the help of Machine Learning to understand user intentions to provide more intuitive interactions with users for a better experience.

AR & Metaverse as the new OS:

While Web 3.0 will be about ownership and controlled nature of the upcoming internet, Metaverse centres around how users will experience the internet of the future. Metaverse uses Virtual Reality (VR) to enter the internet of tomorrow and traversing through virtual spaces using the concept of "Avatars". While AR (Augmented Reality) being a subsequent part of Web 3.0 helping governments, businesses, freelancers to create and extrapolate models and improve user interactions through 3D means of digital communication.

Creator economy:

Earlier there wasn't a balance in power in the versions of Web 1.0 and 2.0, but Web 3.0 aims to give this power back to the creators, NFTs being a prime example which maximises the utilisation of true supporters rather than perusing after million others. Socialised tokens make creators have control over relationship with their fans and stimulate a more direct involvement.

PROPOSED METHOD:

Implementation of Web 3.0 (Block chain) in a Smart City:

Security: Block chain improves the protection of the personal data collected, so that we don't have to give up any sensitive and valuable information
Energy: Smart contracts make it easier for solar-powered households to automatically trade surplus electricity with other members of the grid.

Mobility: Government departments can know which citizens use their vehicles daily and offer them discounts to encourage them to use public transports.

Waste: Block chain can provide the public and the waste disposal services with real-time information on containers so that they can always know whether they are filled or cleared.

Participation: Block chain platforms guarantee the reliability, security, transparency, and anonymity of public consultations, such as surveys, elections, referendums, etc.

Smart cities can use a three-layer model for Block chain implementation:

1. **The business model layer** includes an aspect of data standardization, governance models, legal frameworks, and commercial models.
2. **The platform layer** which includes the consensus mechanisms, smart contracts, authentication, and authorization.
3. **The infrastructure layer** includes hybrid cloud, proprietary components, and managed Block chain. It is important to note that achieving interoperability needs more than solving technical problems, it also requires solving an issue in terms of data ownership, governance and commercial business models that incentivize stakeholders to collaborate with each other.

Advantages	Disadvantages
Increased transparency and connectivity because cities can be interconnected using block chain services.	Crime might increase since cryptocurrencies are in a virtual form and decentralised block chain standards may create unlawful exchanges.
Block chain makes it viable for government departments and the public to interact digitally, without the need for intermediaries.	It is impossible for a block chain to fully achieve decentralization, security, and scalability, all at the same time.
Through the means of block chain, we can find out how a city's services are being used without compromising people's privacy.	Block chain could be highly volatile in nature and any innovations are exposed to unpredictability.

Table 1: Advantages and Disadvantages of block chain in smart cities

CONCLUSION:

It has been predicted that Web 3.0 will transform business dealings, social interactions, and the internet economy. Web 3.0 will create a possibility for open world virtual crypto networks which will offer a glimpse of what the future of the internet may hold. This will potentially fascinate companies like Facebook to pivot towards the Metaverse, which may serve as a catalyst for other major Web 2.0 companies and investors to follow.

While block chains networks and their applications show potential to facilitate more sustainability, the technology used is just a tool, not a silver bullet. It will not drastically protect forests, reduce carbon footprint, or restore oceans. If implemented correctly, it can facilitate smart choices by producers and consumers, governments, and corporations. However, the

technology is still in its initial stages, with many technological and legal challenges ahead.

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IPL (INDIAN PREMIER LEAGUE) ANALYSIS: A RESEARCH

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INTRODUCTION:

Since its introduction in 2004, T20 has become the star attraction within cricket for its high voltage action and exciting phases of play. As part of its popularity, the IPL (Indian Premier League), formed in 2008, began and kicked off one of the largest annual sports events in the world alongside the Football Premier League and NBA (National Basketball Association) until today. (Runs by B., 2018) As a result of its increasing demand, teams are spending money towards a variety of avenues to gain a distinct competitive edge. One of these avenues is within data science to analyse player performance and opposition performance. As a result, the analysis of a league like this IPL is of growing importance.

Acknowledgements:

We are using this opportunity to express my gratitude to everyone who supported us throughout the course of this group project. We are thankful for their aspiring guidance, invaluable constructive criticism and friendly advice during the project work. I am sincerely grateful to them for sharing their truthful and illuminating views on a number of issues related to the project.

Further, we were fortunate to have as our mentor. He/She has readily shared his immense knowledge in data analytics and guided us in a manner that the outcome resulted in enhancing our data skills. We wish to thank all the faculties, as this project utilized knowledge gained from every course that formed the IDOL program.

We certify that the work done by us for conceptualizing and completing this project is original and authentic.

Date:

Member 1 – Sanket Rakshe

Place: Mumbai

Member 2 – Abhishek Yewle

Certificate of Completion -

I hereby certify that the project titled “IPL (Indian Premier League) Analysis (2016 - 2019)” was undertaken and completed under my supervision by Sanket Rakshe and Abhishek Yewle from IDOL.

Mentor:

Date:

Place: Mumbai

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- ACKNOWLEDGEMENTS
- CERTIFICATE OF COMPLETION

CHAPTER 1: INTRODUCTION

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- Need of the Study
- Business or Enterprise under study
- Business Model of Enterprise
- Data Sources
- Tools & Techniques

CHAPTER 2: DATA PREPARATION AND UNDERSTANDING

- Phase I – Data Extraction and Cleaning
- Phase II - Feature Engineering
- Data Dictionary
- Exploratory Data Analysis

TITLE & OBJECTIVE OF STUDY:

The objective of the project is to analyse matches played by Royal Challengers Bangalore from year 2016 - 2019.

NEED OF THE STUDY:

As of now we already knew that Royal Challengers Bangalore is only the team who had never won any season of IPL from 2008 - 2019. So our objective is to analyse matches from the last 4 years i.e. from 2016 - 2019 and find the insights to improve game strategies which may help to win the IPL season. Moreover, we are also selecting top 10 players of Royal Challengers Bangalore and Mumbai Indians for comparison to build the best team for RCB since Mumbai Indians is the most won team from year 2016 - 2019.

BUSINESS OR ENTERPRISE UNDER STUDY:

The Indian Premier League (IPL), is a professional Twenty20 cricket league in India contested during April and May of every year by teams representing Indian cities. For each team winning of the season is very important. To win every match for a particular team, the team requires excellent players. So it is very important to analyse the performance of every player and the whole team of every match. This can be achieved by applying some methodologies like classification, regression. Classification helps the team to decide what to choose bat or field first to win the match. And regression helps to predict the result of a match based on their toss decision and game play.

BUSINESS MODEL OF ENTERPRISE:

We have to run a model like Logistic Regression to analyse predictive results based on the toss winner and toss decision taken by the team.

DATA SOURCES:

The data is collected from Kaggle. Datasets having 2 files i.e. Matches and Deliveries. The dataset “matches” contains 18 columns and 757 observations. The “deliveries” dataset contains 21 columns and 179075 observations.

TOOLS & TECHNIQUES:

- Tools: Python

TECHNIQUES:

1. Pandas is a software library written for the Python programming language for data manipulation and analysis. In particular, it offers data structures and operations for manipulating numerical tables and time series.
2. NumPy is a library for the Python programming language, adding support for large, multi-dimensional arrays and matrices, along with a large collection of high-level mathematical functions to operate on these arrays.
3. Matplotlib is a plotting library for the Python programming language and its numerical mathematics extension NumPy. It provides an object-oriented API for embedding plots into applications using general-purpose GUI toolkits.
4. Seaborn is a Python data visualization library based on matplotlib. It provides a high-level interface for drawing attractive and informative statistical graphics.
5. Scikit-learn (formerly scikits. learn and also known as sklearn) is a free software machine learning library for the Python programming language. It features various classification, regression and clustering algorithms including support vector machines, random forests, gradient boosting, k-means and DBSCAN, and is designed to interoperate with the Python numerical and scientific libraries NumPy & SciPy.

DATA PREPARATION AND UNDERSTANDING:**Phase I – Data Extraction and Cleaning Missing Value Analysis and Treatment -**

There is processed data of matches having 18 variables and 757 observations. In the dataset, the winner variable has missing value whenever matches are dead heat. So we have filled that blank value with “DRAW” value.

Handling Outliers -

There were no outliers in our dataset.

Feature Extraction -

We have selected 7 features like match id, season, team1, team2, toss winner, toss decision, winner. We have selected data of matches only for RCB.

Phase II - Feature Engineering

1. Splits the data into train and test of the ratio of 70 - 30.
2. The target variable is the winner by which to predict the match result.

3. The match result identifies win or loss and its define TP, TN, FP, FN.
4. Compare the data from process data and then analyse the train data and test data on model. Plot the ROC, AUC, Confusion Matrix of the train data.
5. Predict the x and y variable of the model.

Data Dictionary:

The train file count is 39 and test file counts is 17. matches.csv deliveries.csv

Exploratory Data Analysis

- import data set using panda into data frame Display columns
- show info of matches data
- Delete unwanted columns from data
- Delete duplicates
- Replace null values with DRAW
- Drop rows containing null values
- Get match data from 2016 onwards
- make copy of matches Data for safer site
- Get Data for RCB Matches Played by RCB from 2016-2019 Convert object data type to categorical data type Compare RCB team with MI team
- Get deliveries data from 2016-2019 by using match id find top 10 players Royal Challengers Bangalore find top 5 batsman of Royal Challengers Bangalore

Step 1: Get data of batsman.

Step 2: Get runs of individual batsman

Step 3: Combine batsman and runs

Step 4: Select top 5 batsman of Royal

- Challengers Bratioangalore find top 5 bowlers of Royal Challengers Bangalore

Step 1: Get the data of bowlers

Step 2: Get the ratio of number of balls and runs Step 3: Combine bowlers, ratio and wickets

Step 4: Select top 5 bowlers

- Top 10 Players of Royal Challengers Bangalore

Select top 10 players from Mumbai Indians find top 5 batsman for team Mumbai Indians

Step 1: Get data of batsman

Step 2: Get data of runs

Step 3: Combine batsman and runs

Step 4: Select top 5 batsman

- Let's find top 5 bowlers for team Mumbai Indians # Step 1: Get the data of bowlers

Step 2: Get the ratio of number of balls and runs # Step 3: Combine bowlers and ratio

Step 4: Select top 5 bowlers

FITTING MODELS TO DATA:

Logistic Regression Model -

KEY FINDINGS:

Problem Statement- As of now we already knew that Royal Challengers Bangalore is only the team who had never won any season of IPL from 2008 - 2019. So our objective is to analyse matches from the last 4 years i.e. from 2016 - 2019 and find the insights to improve game strategies which may help to win the IPL season.

Exploratory Data Analysis (EDA)

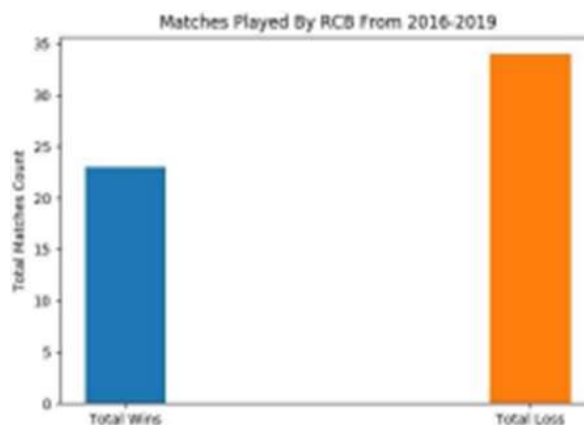
- Data Collection
- Data Cleaning

Data Pre-Processing

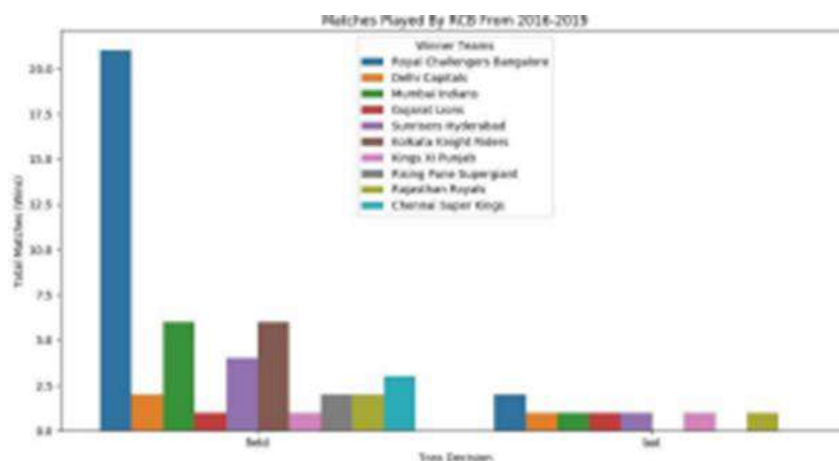
- Data Wrangling
- Model Building & Training

Data Collection:

- The Data is collected from kaggle, it has 2 datasets i.e. “Matches” and “Deliveries” which having all the records of IPL matches from year 2016 to 2019 • The dataset “matches” contains 18 columns and 757 observations
- The “deliveries” dataset contains 21 columns and 179075 observations
- Below is the graph of total matches win and loss by RCB from year 2016 - 2019.



Below is the graph of total matches win and loss based on tossed decisions.



As per the analysis we can conclude the following points -

- RCB team should choose field first if they are winning toss
- RCB team have good batsman as compare to most powerful team like MI so they don't have to worry about batting

- RCB team have poor bowlers as compared to MI so they should work on bowling part or need to change bowler to improve game.

REFERENCES:

- Dataset is collected from Kaggle <https://www.kaggle.com/nowke9/ipldata>

Digital Voting System Using Blockchain

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ABSTRACT

Since the late 1980s, electronic voting, often known as e-voting, has been used in many forms with key advantages over paper-based systems such as enhanced efficiency and reduced errors. However, there remain challenges to understand wide spread adoption of such systems especially with regard to improving their resilience against potential faults. Blockchain could be a game changing technology of current era and promises to reinforce the overall resilience of e-voting systems. Building a secure electronic voting system that provides the fairness and privacy of current voting schemes, while providing the transparency and adaptableness offered by electronic systems has been a challenge for an extended time. In this paper, we evaluate an application of blockchain as a service to implement digital electronic voting systems. Especially, we evaluate the potential of distributed ledger technologies through the outline of the tactic of an election, and thus the implementation of a blockchain based application, which improves the security and reduces the cost of hosting a nationwide election.

1. INTRODUCTION

Elections are fundamental pillar of a democratic system enabling the overall public to give their views within the sort of a vote. They mostly play an important role within the way forward for citizens life. Therefore, it's much importance for each single person involved in these elections. no matter the organization, elections need to be trustworthy in its nature. they need to make sure people's privacy and vote's security. Additionally, the authority which is liable for counting votes shouldn't spend an excessive amount of time on counting votes since waiting long period of your time for results increases concerns about manipulation of results. However, thanks to the various reasons counting on the areas that elections are made, trust has been a controversial issue for every election. To dissipate problems of both conventional and e-voting elections, e-voting are often improved using Blockchain mechanism. Blockchain has impressive features to beat troubles of voter's security, privacy and data integrity of votes. Blockchain is one among the emerging technologies with strong cryptographic foundations enabling applications to leverage these abilities to realize resilient security solutions. Blockchain is a distributed, immutable, public ledger. This technology has three main features:

(I) Immutability: Any proposed "new block" to the ledger must relate to the prior ledger version. This generates an immutable chain, which is how the blockchain got its name, and precludes tampering with prior entries integrity.

(ii) Verifiability: The ledger is dispersed across several sites and is decentralised, replicated, and replicated. As all nodes maintain the consensus version of the ledger, this enables high availability (by eliminating one point of failure) and third-party verifiability.

(iii) Distributed Consensus: A distributed consensus protocol to work out who can append subsequent new transaction to the ledger. A majority of the network nodes must reach a

consensus before any new proposed block of entries becomes a permanent a part of the ledger. These features are partially achieved through advanced cryptography, providing a security level greater than any previously known record-keeping system. Blockchain technology is therefore considered by many, including us, to possess a considerable potential as a tool for implementing a replacement modern voting process.

Blockchain as a Service

The blockchain is an append-only data structure, where data is stored during a distributed ledger that can't be tampered with or deleted. This makes the ledger immutable. The blocks are chained in such how that every block features a hash that's a function of the previous block, and thus by induction the entire prior chain, thereby providing assurance of immutability. There are two differing types of blockchains, with different levels of restrictions supported who can read and write blocks. A public blockchain is readable and writeable for everybody within the world. this sort is popular for cryptocurrencies. a personal blockchain sets restrictions on who can read or interact with the blockchain. Private blockchains also are referred to as being permissioned, where access is often granted to specific nodes which will interact with the blockchain. additionally, to cryptocurrency, blockchain provides a platform for building distributed and immutable applications or smart contracts. Smart contracts are programmable contracts that execute themselves when certain circumstances are met. Smart contracts are utilised as a legally enforceable agreement between parties, similar to traditional written contracts. Smart contracts automate transactions and permit parties to succeed in agreements directly and automatically, without the necessity for a middleman. Key benefits of smart contracts compared to standard written contracts are cost saving, enhanced efficiency and risk reduction. Smart contracts redefine trust, as contracts are visible to all or any the users of the blockchain and may, therefore, be easily verified. during this work, we define our e-voting system supported smart contracts.

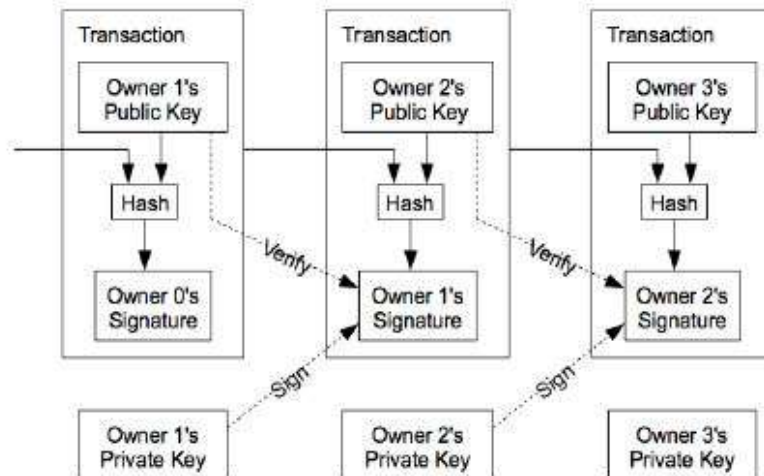


Fig 1 Voting Block

2. PROPOSED SYSTEM DESIGN FOR DIGITAL VOTING

Based on the defined voting needs and blockchain as a service, this section presents a new e-voting system. We describe the blockchain's setup, specify the e-voting smart contract that will be put on the blockchain, and demonstrate how the proposed system meets the envisioned voting requirements.

A. Setup of the blockchain.

In order to satisfy the privacy and security requirements for e-voting, and to make sure that the election system shouldn't enable coerced voting, voters will need to choose a supervised environment. In our work, we setup a Ethereum blockchain to realize these goals. Ethereum uses an algorithm that delivers comparatively fast transactions through a consensus mechanism supported identity as a stake. the rationale for using Ethereum is it is the world's first programmable blockchain. Ethereum is a version of Bitcoin, with a few key modifications. Both allow you to use digital money without the usage of third-party payment services or banks. But Ethereum is programmable, so you'll also use it for many different digital assets – even Bitcoin. This also means Ethereum is for quite payments, it is also a marketplace of monetary services, games and apps that can't steal your data or censor you. Ethereum makes use of Solidity, a statically typed curly-brace programming language developed for creating Ethereum smart contracts. After setting a secure and personal blockchain, subsequent step is to define and deploy a sensible contract that represents the e-voting process on the blockchain infrastructure.

B. Election as a sensible contract

Defining a sensible contract includes three parts:

- (1) identifying the roles that are involved within the agreement (the election agreement in our case),
- (2) the process of reaching an agreement (i.e., the election process), and
- (3) the transactions (i.e., voting transaction) utilized in the smart contract.

1) Election roles: The roles during a smart contract include the parties that require to participate within the agreement. The election process has the subsequent roles:

- (i) Election administrator: Responsible for overseeing the election process. During this job, multiple trustworthy institutions and corporations may be enrolled. The election administrators are in charge of creating the election, registering voters, determining the election's duration, and assigning permissioned nodes.
- (ii) Voter: a person who is eligible to vote. After an election, voters can authenticate themselves, load election ballots, cast their vote, and verify their vote.

2) Election process: In our work, each election process is represented, by a group of smart contracts, which are deployed on the blockchain by the election administrators. a sensible contract is defined for every of the voting districts.

The following are the most activities within the election process:

(i) Election creation: Election administrators create election ballots employing a smart contract which the administrator defines an inventory of candidates for every voting district. District nodes receive access to communicate with their respective smart contract after the smart contracts are placed onto the blockchain.

(ii) Voter registration: The registration of voter's phase is conducted by the election administrators. When an election is made the election administrators must define a deterministic list of eligible voters. This might require a component for a government document identification service to securely authenticate and authorize eligible individuals. Using such a service is important to satisfy the need of secure authentication as this is often not guaranteed, by default, when employing a blockchain infrastructure. In our work, for every eligible voter, a corresponding identity wallet would be generated. A singular wallet is generated for every voter for every election that the voter is eligible to participate in.

(iii) Tallying results: The tallying of the election is completed on the fly within the smart contracts. Each ballot smart contract does their own tally for his or her corresponding location in its own storage.

(iv) Verifying votes within the voting transaction, each voter receives the transaction ID of his vote. In our e-voting system, voters can use this transaction ID and attend a politician election site (or authority) employing a browser after confirming themselves with their electronic identification, they use a blockchain explorer to locate the transaction with the appropriate transaction ID on the blockchain. As a result, voters may see their votes on the blockchain and double-check that they were listed and counted appropriately. This type of verification meets transparency standards while preventing vote tampering.

3) Voting transaction: Each voter interacts with a ballot smart contract for the voting district to which she belongs. The associated district node communicates with the blockchain using this smart contract, appending the vote to the blockchain. For verification purposes, each voter obtains a transaction ID for his or her vote. Every vote that is mandated by the majority of district nodes is recorded as a transaction and subsequently added to the blockchain. In our suggested system, a transaction contains data on i) the transaction ID, ii) the block which the transaction is found at, iii) to which smart contract the transaction was sent – which indicates from which voting district the vote was cast, and iv) the worth of the transaction, i.e., the vote, indicating which entity (party) the voter voted for.

As a result, in today's world, the idea of adapting digital voting techniques to make the public political process cheaper, faster, and easier is appealing. Making the voting process inexpensive and quick normalises it in the eyes of voters, lowers a power barrier between the voter and the elected official, and puts pressure on the elected official. It also allows for a more direct type of democracy by letting people to voice their preferences on specific initiatives and propositions.

3. CONCLUSION

Trusted elections are essential for strong democracies, and citizens should have faith in the electoral system. Traditional paper-based elections, on the other hand, are untrustworthy. We presented a blockchain-based electronic voting system that uses smart contracts to provide secure

and cost-effective elections while maintaining voter privacy in this study. We've demonstrated that blockchain technology provides a new way to overcome the limits and adoption obstacles of electronic voting systems, ensuring election security and integrity while also laying the foundation for transparency. It is feasible to transfer hundreds of transactions per second into an Ethereum private blockchain, employing every component of the smart contract to lighten the burden on the blockchain.

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A study of Financial Performance of Indian Private Banks

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ABSTRACT:

This paper talks about the financial performance of the Indian Private Banks. This research also provides the insight of the problem and give suggestions to overcome the problem. This study explains about the performance of private banks in financial terms and to overcome the problems related to the customer relationship activities.

KEYWORDS: Financial Performance, Finance, Indian Private Banks.

1.INTRODUCTION:**1.1. Introduction to Financial Performance:**

Financial Performance is a term used for measuring of how well any firm can use it's overall assets from its primary mode of business and to generate some kind of revenues for the welfare of the company. Financial Performance is also know as a general measure of an organization's overall financial health over a given period of time.

This Financial Performance is mostly used by an analyst and investors to compare similar types of firms across the same line or sectors with similar aggregates.

1.2. Introduction to Private Banks :

Private Banks are those banks in which the majority of the stake of the banks are held by the shareholders of the banks and not by the government. Some examples of private banks are HDFC Bank, ICICI Bank, Yes Bank, Axis Bank, Kotak Mahindra Bank, Canara Bank, RBL Bank and many more. Private banks provide investment related advices, suggestions to each and every clients. These banks plays the role of protecting and maintaining their assets. Every clients gets the individualized financing solutions.

2. REVIEW OF LITERATURE

2.1 Dr. Divyang Joshi, Mr. Samir Thakkar, Ravina Machhi, Devyesh Chauhan (2021) The researchers focused at the financial performance of India's banking sector over the last five years from 2016 to 2020. This study aimed to identify factors influencing bank success, the best banks based on their results over a period of time. Net profit, total assets, total income, total expenses, eps ratio and many more. In private sector HDFC Bank and ICICI Bank performance is the best as the research says. SBI is observed to be very stable now days.

2.2 Vasani Sureshbhai Vithalbha (2020) The present study aimed at analyzing the financial performance of Yes Bank, HDFC Bank, Axis Bank, ICICI Bank. The financial performance of HDFC Bank is continuously in a good position each and every year leading to the profit and a proper management. The result indicate that the Yes Bank is in deteriorating financial position because of the issues related to government. Axis Bank and ICICI Bank are slowly declined within the market. Data used for this study is based on the annual report of the banks and secondary data collected from RBI.

2.3 JETIR (2020) Banking system in India is controlled and run by the Reserve Bank of India. RBI makes all the changes in the monetary policies which affects the present balance of the banks. Bank only works on the guidelines provided by the RBI. It is very difficult to measure the financial performance of banks. It is only conducted from a study, Axis Bank and HDFC Bank are generating more return on overall assets compared to ICICI Bank. It has also studied that ICICI Bank has to meet the demand of all the clients. It is found from the study that ICICI Bank is more flexible in the term of providing better services to clients as compared to HDFC Bank, Axis Bank and Other private banks.

2.4 Gurpreet Kaur(2015) For guaranteeing sustainable advancement of banking area , it's vital to take following advances. Utilization of ongoing innovation in open area banks, obligation recuperation

component, and further developed labour abilities could be some way outs for working on the monetary execution of the area. Public area banks are expected to devise imaginative approaches to answering to the advancing difficulties. Thus, in the time of advancement and globalization, the banks ought to embrace the most recent structure according to the Basel-III Accord, also advance expense decrease systems and should wander into coordinated financial administrations. Further, to guarantee the flexibility of the financial area and to keep away from the unpredictability of other area banks more rigid arrangements might be ordered. This study might help the choice creators of Indian Public area banks and different classifications of banks in Indian Banking area to focus on financial exercises and subsequently to expand the bank positioning and monetary execution of the banks. It might help the administration in figuring out proper methodologies for accomplishment of goals.

3. RESEARCH METHODOLOGY:

3.1 PURPOSE OF THE RESEARCH

The most important purpose of our research is that banks in the private sector play a critical role in the growth of the Indian economy. The banking industry underwent significant changes following liberalisation. The banking sector has been completely transformed as a result of the economic changes. RBI has allowed new private sector banks to be established. The use of technology and expert management, new generation banks have established a reasonable place in the banking market.

3.2 OBJECTIVES OF THE RESEARCH

- To analysis the trend of Indian Private Banks
- To analysis the uses of new updated technology of Indian Private Banks
- To analysis the financial performance of Indian Private Banks

3.3 METHODS OF DATA COLLECTION

Secondary Data is collected from Newspaper, Finance website, Business website and Reserve Bank of India website

3.4 RESEARCH DESIGN

This research is descriptive in nature

3.5 LIMITATIONS OF THE RESEARCH

This research has physical, economical and time constraint.

3.6 DELIMITATIONS OF THE RESEARCH

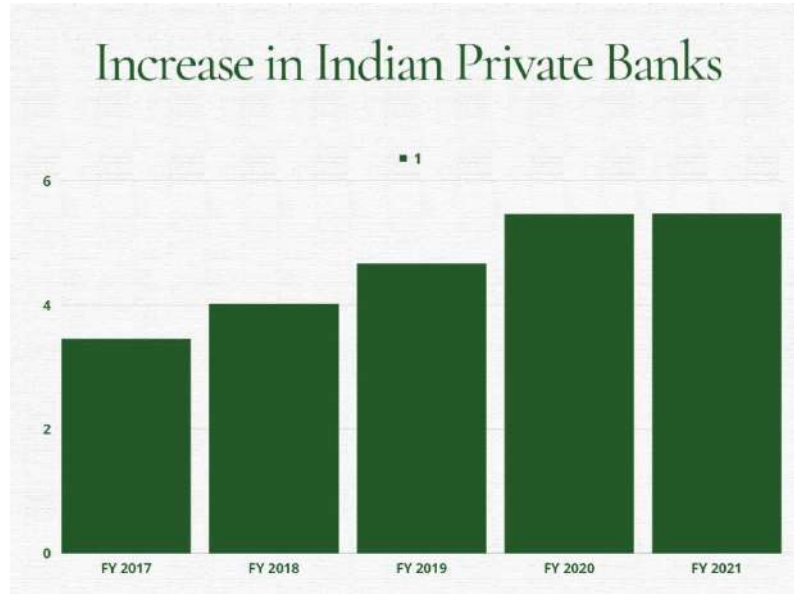
This research is conducted from the data collected from various website on the internet related to financial performance of top banks HDFC Bank, ICICI Bank, Axis Bank, Yes Bank.

3.7 DATA ANALYSIS METHODS

Data is collected from various website and news sources to generalize the findings and draw conclusion of the research study.

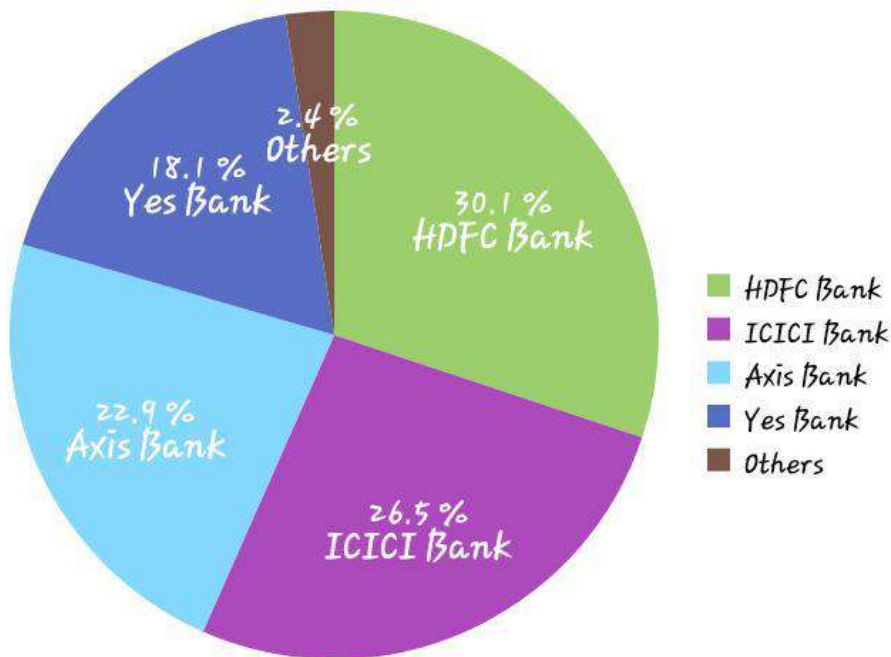
4. FINDINGS AND ANALYSIS :

1. Increase in the numbers of Indian Private Banks



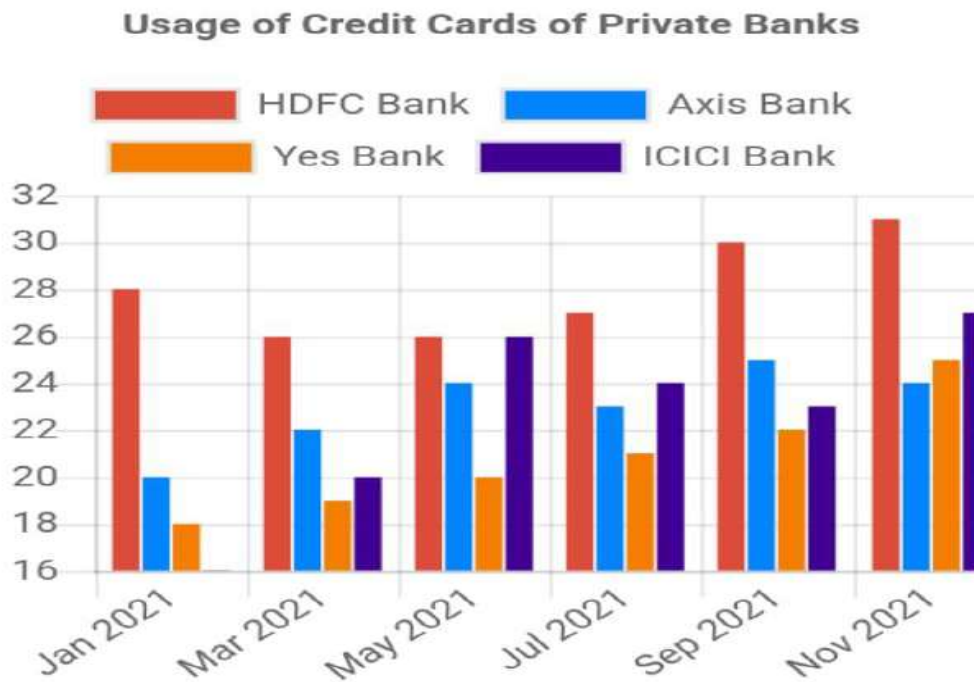
From the above we can understand that the growth of Private Banks in India is exponential. The Private Banks are also getting a huge place in the Indian Banking sector for the betterment of the people.

2. Market of Indian Private Banks



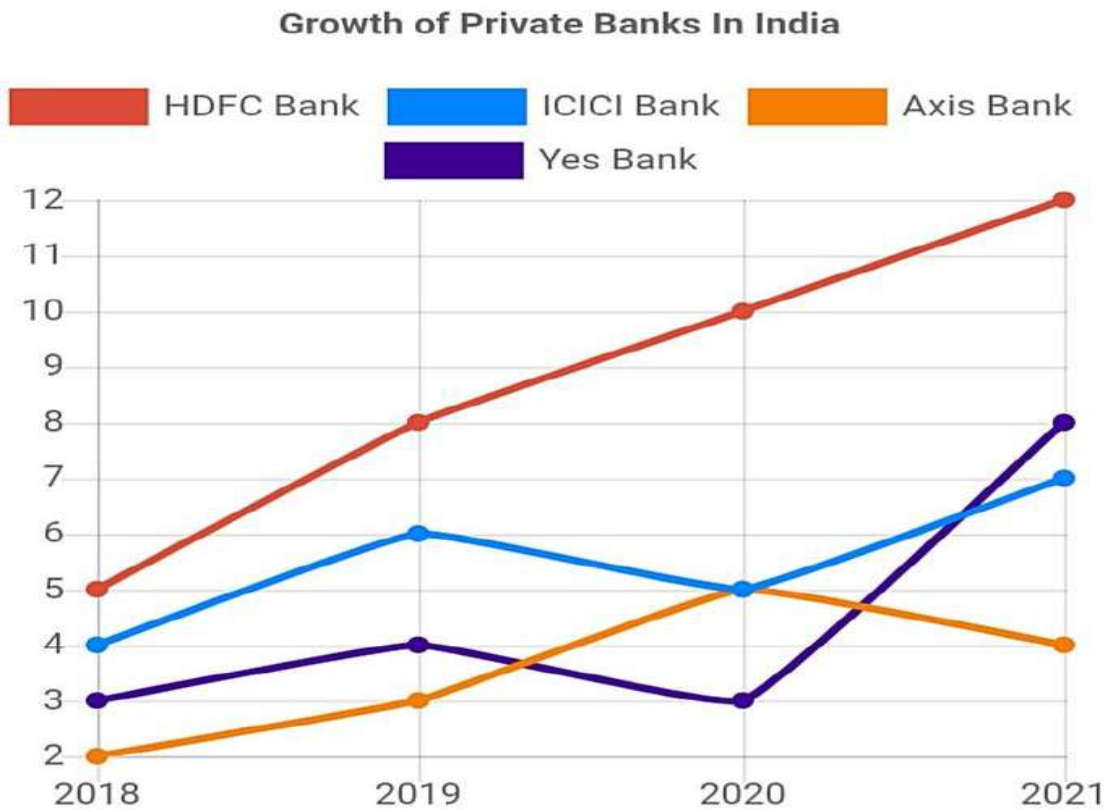
From the above pie chart we can understand the usage of cards by the customers which indicates the market share of Private Banks in India.

3. Number of persons using the credit cards of Private Banks in India



From the above graph we can understand that the usage of credit cards of Indian Private Banks are increasing monthly.

4. Growth Of Private Banks in India



From the above table we can understand that the growth of the top 4 private banks are in an increasing stage year by year.

Some Private Banks in India

Sr No	Bank Name	Established	Headquarters	Branches	Revenues
1.	HDFC Bank	1994	Mumbai, Maharashtra	4,787	816.02 billion

2.	Axis Bank	1993	Mumbai, Maharashtra	4,094	414.093 billion
3.	ICICI Bank	1994	Mumbai, Maharashtra	4,882	736.60 billion
4.	Kotak Mahindra Bank	2003	Mumbai, Maharashtra	1,369	211.76 billion
5.	RBL Bank	1943	Mumbai, Maharashtra	342	44.68 billion

From the above table we can able to see some of the best private Banks in India with their establishment, branches, headquarters and revenues.

5.CONCLUSION:

Currently, Private banks in Republic of India is matured in terms of supply, product vary and reach, despite the fact that, the range in rural India still remains a challenge for the private sector banks. In terms of quality of assets and capital adequacy, Indian banks are thought of to possess clean, sturdy and clear balance sheets. With the growth within the Indian economy that is anticipated to faster, particularly in the services sector, the demand for the banking services, Mergers and acquisitions, takeovers and plus sales are expected to increase. Despite the fact that public sector banks dominating the business there's a good scope for personal sector banks due to their simplified procedures and user Friendliness. The bankers have to be compelled to analyse the money variables that effectively contributed to the expansion of the private sector banks and which influences the performance and negative variables ought to be utmost look after economical and effective financial performance.

6. SUGGESTIONS:

Communication between other banks should be done in every other banks, standardization and security should be increased, any upgraded new technology should be used for the betterment of the clients, legal framework should be made strong and electronic banking should be increased.

7. WEBLIOGRAPHY

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A STUDY ON DIGITAL-CURRENCY IN INDIAN MARKET

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ABSTRACT:

This paper investigates digital currency and its present legality in India, as well as the future government, moves impact on digital currencies (CBDC). This research also analyzes the investment risks of digital currencies and gold. A suitable conclusion is drawn to understand the scenario of market trends regarding this digital currency.

KEYWORDS: Digital Currency, Commercial Bank Digital Currency, Investment risks.

INTRODUCTION:

The exponential growth in Information Communication Technologies has led to many activities in our daily lives to being integrated online, becoming more flexible and efficient. E-commerce is becoming the most important part, and internet booze is thriving with many customers in technology India. As a result, many countries in the world have been focusing on digital money and transactions. Even some people don't want their currencies and transactions to be regulated. The greater innovation is brought by this – that is Cryptocurrency.

Cryptocurrency is defined as "a digital currency in which transactions are confirmed and records are maintained by a decentralized system using encryption rather than a centralized institution".

Central Bank Digital Currency (CBDC) (also known as digital fiat currency) is a digital currency issued by central banks rather than commercial banks.

According to a report by the Bank for International Settlements, although the term "central bank digital currency" is not clearly defined, "most see it as a new form of central bank money that is distinct from traditional reserves or settlement balances. The current CBDC concept is inspired by Bitcoin and is to similar blockchain.

However, CBDCs differ from these cryptocurrencies in that they have been or will be issued by the government and have official fiat status. CBDCs are currently mostly in the virtual phase and some are in proof-of-concept programs. India is expected to release a digital version of the rupee as early as this year. India is the latest major economy to announce an official virtual currency as China tests its digital yuan.

REVIEW OF LITERATURE:

➤ **Wonglimpiyarat, 2016** emphasizes that there are obstacles to the illegal bidding that Bitcoin wants government law Increase the tolerance of this new currency. Bitcoin currency may change the future of banks in developing countries, but it is It is difficult to replace a cash-based society.

➤ **Kurihara & Fukushima 2017** explained that digital cash is not the predominant thing in the world. Unlike the central bank the state-issued currency, Bitcoin, can be freely inflated, and the supply of Bitcoin is limited to a certain amount, but it cannot be changed.

➤ **Prof. Blesson James, and Prof. Manjari Parashar 2018** explained in their research that Cryptocurrency is an excellent invention which has become global phenomenon. They further concluded that cryptocurrency is the modern technology tool which needs to be looked forward too.

RESEARCH METHODOLOGY:

PURPOSE OF THE RESEARCH:

The purpose of this research is strictly academic, this papers explains types of digital currencies, its investment risks and its legality in India.

OBJECTIVES OF THE RESEARCH:

- To understand the concept of digital currency and its functions in trading.
- To know legality and trading of digital currency in India.
- To study the opinion of investors on future of cryptocurrency in India
- To compare Investment risk in between gold and Bitcoin (Crypto).

METHODS OF DATA COLLECTION:

Secondary Data: Secondary data for necessary queries is gathered from published sources such as academic libraries, online websites, books, magazines, and more.

HYPOTHESIS:

- **Ho:** There's no significance difference in between the vitality of Bitcoin value and gold Value in India.
- **Ha:** There is significance difference in between the vitality of Bitcoin value and gold value in India.

RESEARCH DESIGN:

The research design deployed was analytical research design. It is descriptive in nature.

DILIMITATION OF THE RESEARCH:

This study covers the digital currency monthly value from 2021-Jan 2022.

METHODS FOR STATISTICAL ANALYSIS:

The research is based on the scores of opinionative that had been obtained by the independent sources and classified these scores according to independent variables. The t-test had been performed to check the hypotheses mentioned above in this paper.

DATA ANALYSIS METHODS:

Data is collected from government sources to generalize the findings and draw conclusions of the research study.

FINDINGS AND ANALYSIS:

- The issuance of CBDCs will lead to a more efficient and cost-effective currency management system in the country.
- Digital currency will contribute to the effective globalization of payment systems in real-time.
- The introduction of central bank digital currencies will bring great vitality to the digital economy.

➤ Digital Currency:

Digital currency is just a digital representation of a country's physical currency. Digital currencies can be used for transactions and all other utilities that are typically conducted using physical money. It is regulated by the government and can be used with debit/credit cards or online payments.

➤ Crypto and RBI:

The Reserve Bank of India (RBI) has issued a memo warning Indians about the financial, legal and security risks associated with cryptocurrencies. This happened four years after Bitcoin, the world's first cryptocurrency, was launched. Eight years later, central bank opposition to cryptocurrencies has grown stronger. In 2018, the RBI effectively banned cryptocurrency trading in India, ordering banks not to facilitate cryptocurrency trading. However, a 2020 Supreme Court ruling overturned the central bank's ruling. The RBI has consistently resisted cryptocurrencies over concerns related to financial stability. If cryptocurrencies are allowed to roam freely, central bank monetary policy will be less effective, virtual currencies will weaken banks and other regulated entities, and other concerns about cryptocurrencies include extreme price volatility and difficulties in trading transactions.

➤ Government's announcement of 30% tax on crypto:

The government has announced a 30% tax on personal digital assets, which is widely regarded as an indirect acknowledgment of the existence of these tools. However, this does not mean that these assets are legally recognized in the fullest sense. There is a discussion about this. At the same time, current indications suggest that CBDC may occur earlier.

➤ Crypto trading in India market:

Digital currency is the future of finance. India has huge room for rapid growth in cryptocurrency adoption. The purpose of this study is to understand the growth of cryptocurrencies over the year, compare traditional investment opportunities with cryptocurrency, and compare SWOT analysis of the future prospects of cryptocurrencies in India. There are about 20 million active cryptocurrency users in India. From July 2020 to June 2021, the cryptocurrency market in India grew by 640%.

During this period from total digital currency transactions from Southern Asia, 42% is coming from the Indian market which is about \$10 million.

A comparative evaluation of traditional funding avenues with cryptocurrency indicates that Indian buyers nonetheless favor to spend money on traditional funding avenues. The reason behind this is lack of information, security concerns and lack of rules for cryptocurrencies are seen.

The Indian market has a high level of adoption due to the lack of intermediary intervention, low transaction costs and worldwide accessibility due to its decentralized system.

The major barrier for cryptocurrency's weaknesses and threats are highly volatile market, security threats, black marketing, no regulations, threats associated with unknown identity. However, the cryptocurrency market in India is huge and high growth is expected in the future. Accordingly, the government is exploring the possibility of creating a state-owned digital currency issued by the Central Bank of India.

Leading to these –

➤ **Digital currency meaning:**

A digital currency, or rupee, is a currency in electronic form that can be used for contactless transactions. Finance Minister Nirmala Sitharaman introduced the trade union budget for 2022, announcing that the Reserve Bank of India (RBI) will soon launch a digital currency. RBI's digital currency, CBDC (Central Bank Digital Currency), will be introduced in 2023.

➤ **Similarities between Digital Rupee, Bitcoin, Doge, and Ethereum:**

Manoj Dalmiya, founder of Proassetz, said, "It is like Bitcoin in terms of the technology it uses, namely blockchain technology, but it is completely different when you start with the definition of a cryptocurrency.

➤ **Difference between digital rupee and cryptocurrency:**

The basic difference between digital rupees and encryption is likely to centralize the digital rupee issued by the RBI. On the other hand, Cryptocurrencies cannot be monitored by a single essence, and Vinshu Gupta said, the director of NonecLox Blockchain Studio. "Digital Rupee can be a legitimate trend, but Cryptocurrency is not considered a legitimate

OBSERVATIONS FROM THE MODEL: CRYPTO TRENDS IN INDIAN MARKET:

Cryptocurrencies, Price and Market Capitalization.

Name of the currency	Symbol	Price in rupees	Market Capitalization
Bitcoin	BTC	₹ 30,68,789	₹ 51.1T
Ethereum	ETH	₹ 2,08,741	₹ 21.9T
Tether	USDT	₹ 79.32	₹ 6.0T
Binance Coin	BNB	₹ 28,732	₹ 4.2T
USD Coin	USDC	₹ 79.32	₹ 4.0T
Solana	SOL	₹ 7,073.42	₹ 2.0T
Cardano	ADA	₹ 67.70	₹ 2.0T
Avalanche	AVAX	₹ 6,003.9	₹ 1.3T
Terra	LUNA	₹ 5,257.55	₹ 1.6T

(Source – Investing India.com)

As of February 25, 2022, the top nine cryptocurrencies are displayed along with their market caps and prices in dollars, with Bitcoin at the top of the list, followed by Ethereum.

The Bitcoin value of the Indian rupee was valued on a four-phase trend line during 2021-2022.

The following table showing the trends of Bitcoin value in respect to Indian rupees.

Bitcoin Value			Gold Value		
Date	Price	Change	Date	Price	Change
Mar 22	43152.5	-0.08%	Mar 22	1907.55	0.36%
Feb 22	43188.2	12.18%	Feb 22	1900.7	5.89%
Jan 22	38498.6	-16.7%	Jan 22	1795	1.84%

Dec 21	46219.5	-18.75%	Dec 21	1828.6	2.93%
Nov 21	56882.9	-7.22%	Nov 21	1776.5	0.53%
Oct 21	61309.6	39.9%	Oct 21	1785.9	1.56%
Sep 21	43823.3	-7.02%	Sep 21	1758.5	3.38%
Aug 21	47130.4	13.42%	Aug 21	1820.1	0.05%
July 21	41553.7	18.63%	July 21	1819.1	2.33%
June 21	35026.9	-6.09%	June 21	1777.7	6.98%
May 21	37298.6	-35.38%	May 21	1911	7.62%
Apr 21	57720.3	-1.78%	Apr 21	1775.7	3.09%
Mar 21	58763.7	30.11%	Mar 21	1722.4	1.06%
Feb 21	45164	36.41%	Feb 21	1740.9	6.38%
Jan 21	33108.1	14.37%	Jan 21	1859.5	2.85%
Dec 20	28949.4	46.97%	Dec 20	1914	6.50%
Nov 20	19698.1	42.77%	Nov 20	1797.2	5.82%
Oct 20	13797.3	28.04%	Oct 20	1908.3	0.75%
Sep 20	10776.1	-7.46%	Sep 20	1922.7	4.32%
Aug 20	11644.2	2.74%	Aug 20	2009.5	0.86%
July 20	11333.4	24.06%	July 20	2026.9	10.3%
June 20	9135.4	-3.38%	June 20	1836.5	3.36%
May 20	9454.8	9.57%	May 20	1776.8	3.71%
Apr 20	8629	34.56%	Apr 20	1713.2	6.63%

(Source: Investing India.com)

Hypothesis t-test.

	43152.5	1907.55
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Mean	33439.36957	1833.769565
Variance	327769179.7	7228.498577
Observation	23	23
Hypothesized men difference	0	
Df	22	
T stat	8.372190688	
P(T<=t) one-tail	1.37609E-08	
t Critical one-tail	1.717144335	
P(T<=t) two-tail	2.75219E-08	
t Critical two-tail	2.073873058	

REFERENCE:

The above table shows that, the calculated $P(T \leq t)$ one tail (1.37) is greater than the Critical one-tail (1.711), so alternative hypothesis is being accepted, meaning there is indeed a significance difference between the value of Bitcoin and Gold. On the other hand, $P(T \leq t)$ two tail (2.75) is greater than Critical two-tailed (2.07), although the difference is small, the null hypothesis is being rejected.

OBSERVATIONS OF THE STUDY:

- In March 2020, the Indian Supreme Court accepted the sentence by cancelling the prohibition of RBI for Crypto trade. Now Crypto Call Transactions are legitimate in India.
- The 2021 government explores the declared national digital currencies issued by the Preliminary Bank of India, and forbearing the individual similar bitcoin. Therefore, the bid of Cryptocurrency is dangerous. As a result, the government charges 30% of Crypto Tax.
- The value of the value of the amount was too low in November 2021, 5.63% and was very high in July 2021, and 9.20%.
- In the new 2021 year, the change in gold cost was too low and 5.63% and was very high in July 2021 and was 9.20%.
- Since March 2019, the volatility of the golden value from March 2019 is very small (means that the value of the value of gold is agreed).
- The blocking volatility from March 2019 to 2022 is very high (means that the value of the value of gold cannot be compatible).

- Investing in gold is better than investing in Bitcoin as researchers compared changes in cryptocurrency and gold and found large changes in value.

CONCLUSION:

Cryptocurrency Genesis is a white paper published by Satoshi Nakamoto, which proposes an “electronic trading system” based on a peer-to-peer network. Decentralized transactions. Not long after that, in 2009, Satoshi Nakamoto introduced the first cryptocurrency, Bitcoin. Established on November 2, 2017, the Inter-Ministerial Committee has prepared a bill titled "Cryptocurrency Ban and Official Digital Currency Regulation" 2019 (draft) to propose specific measures for cryptocurrencies. The bill is under review and has not yet been submitted to Congress. The bill broadly defines “cryptocurrency” and effectively prohibits the use and trading of all forms of digital assets, not just digital currencies. If the bill is passed by Congress, digital currency investors will suffer. You don't have to invest in Bitcoin to have a well-diversified portfolio. However, investing in gold is better as it provides stable returns as compared to cryptocurrencies.

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A STUDY ON INFLUENCE OF COVID-19 PANDEMIC ON CUSTOMER'S ONLINE BUYING BEHAVIOR.

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ABSTRACT:

This paper is about the changing behavior of the consumer's online buying behavior due to covid-19 pandemic. This study will shows us about the covid-19 situation and how people started changing their lifestyle. On 11 March, WHO declared Novel Coronavirus Disease Outbreak as a pandemic. This paper shows how Government of India is taking all necessary steps to prevent the spread of covid-19 and the pandemic pushed people to change their lifestyle and to spend online.

Keywords - Covid-19, E-commerce, Pandemic, buying behavior, buying decision, changing behavior

1. INTRODUCTION

The first cases of covid-19 in India was reported on 30 January 2020 in three town of Kerala, the lockdown was announced in Kerala on 23 March, and in other states on 25 March. The second wave beginning in March 2021 was much more devastating than the first, To avoid getting infected, people started shutting themselves in. people started working from home, students changed from studying offline to online, many changes took place after the lockdown and travel bans it started to push people to shop online. Products that were rarely brought online such as milk, grocery and medicine were now purchased online without thinking. When covid-19 started people were panicked and started shopping essential items in large numbers. E-commerce has made shopping convenient and quick shopping. Consumers expect safe and quick deliveries. Due to increased risk of corona virus, customers are avoiding public places while

increasing online shopping it has affected street vendors who are selling groceries, electronic items and many more items. However people started to change their lifestyle since the cases started to increase a second wave beginning had caused shortage of vaccines, hospital beds, oxygen cylinders and other medical supplies in many parts of the country. It resulted in strict lockdown in the country however it caused fear among the people. Covid-19 pandemic was hard on people, businesses and street vendors. Small Businesses were quick to sell their product online through many apps, Instagram is one of the most active application where small businesses find it easy to sell products. Young and middle –aged consumers were quickest to shop online. This shift in consumers behavior is about to stay for a long time. Brands will now have to focus on creating experience that will strengthen relationship with consumers. This study will help the online shopping service providers to make better strategies

2. REVIEW OF LITERATURE

Online Shopping and Covid-19 Pandemic

Due to the risk of getting infected people started to avoid public places and shifted to online shopping. Online shopping or E-buying is electronic business that provides the customer to purchase goods or services from e-retailer by using internet. Due to increasing use of internet, the consumer's behavior towards purchasing products is changing and e-buying is increasing day-by-day. Due to coronavirus this panic has turned the life of people in various ways like work, shop, behavior, communication, preference of products etc.

Covid-19 Risk

The increase in the number of cases and the shortage of health supplies caused many deaths during covid-19 during the second wave which was the most dangerous time. People took extra care of themselves and avoided crowded places. Even after the lockdown ended people were still worried and many consumers have still preferred online shopping for safety purpose. Due to covid-19 there is increase in online shopping and will continue for a long time due to covid-19 risk.

Preferred Products

When the covid-19 Pandemic started to increase in large number people started to panic and purchase products in large numbers, later consumer's started doing e-buying through various sites such as amazon, flipkart, India Mart etc. Consumers were most interested in grocery shopping and other essential things. Hand sanitizers, face masks. Face shield masks were purchased in large number for safety purpose. Purchase of designed face mask is still in large number. Foods, vegetables and precooked foods have also risen during the pandemic. Demand for laptops and smartphones have increased due to work from home

and online classes. It is found that purchase of essential products are more from start of the covid-19 till date.

Expectation of consumer's

With increase in online shopping consumer's expectation are also rising. Consumers expect safe and quick deliveries and convenience above all. This shift in expectation is about to stay for a long time. People are willing to shop from brands online even after pandemic. However brand will have to focus on creating experience that will strengthen relationships with customers.

3. RESEARCH METHODOLOGY:

3.1. PURPOSE OF THE RESEARCH

This study is based on understanding the change in consumer's online buying behavior during covid-19 pandemic. The aim of this study is to find the new behavioral changes among the young consumers and middle-aged consumers in purchasing essential products, fashion products, electronic products. Covid-19 has changed many peoples buying behavior in India.

The purpose of this research is to focus on the difference in consumer's online shopping behavior before and after the lockdown.

3.2. OBJECTIVES OF THE RESEARCH

- To identify the most important factor influencing consumers online buying behavior.
- To know about the difficulties faced by consumers while purchasing essential products.
- To know about the preferred product that consumers are purchasing in covid-19.
- To know about the covid-19 situation and the most common used shopping application among the consumer's.

3.3. METHODS OF DATA COLLECTION

This study is based on the secondary data which includes published reports (economic times report, journal.plog.org) Covid-19 Website. Primary data which includes google form to know about the consumer's changing behavior and their preference about the most common products and most commonly used shopping application.

3.4. RESEARCH DESIGN

The research design is analytical research design. It is descriptive in nature.

3.5. DELIMITATIONS OF THE RESEARCH

The distribution of the survey will be done within the connections and their network in Mumbai.

The research focuses on online shopping of grocery, medicines, fashion, the study focuses on consumers buying behavior towards essential products.

3.6. LIMITATIONS OF THE RESEARCH

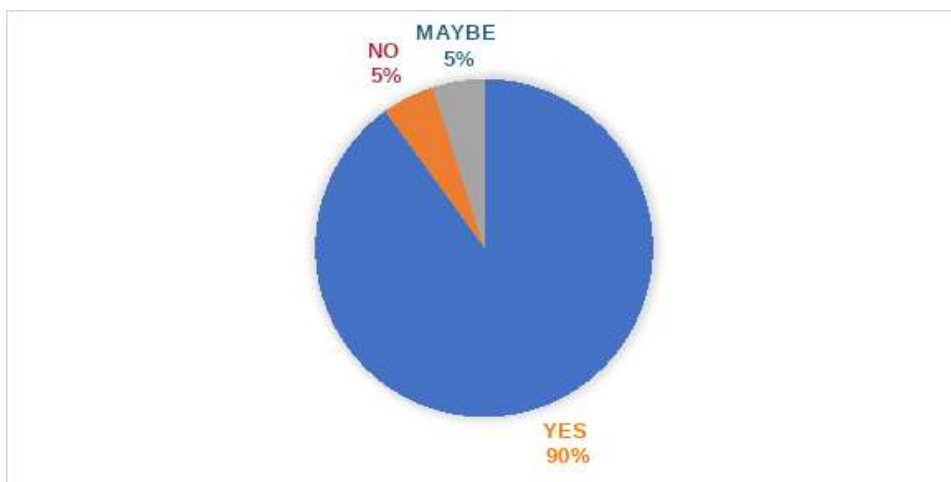
The major factor that have limited the finding is limited number of participants in the survey.

3.7. DATA ANALYSIS METHOD

The research is done by collecting data from various website and conducting survey to draw conclusion of the research study.

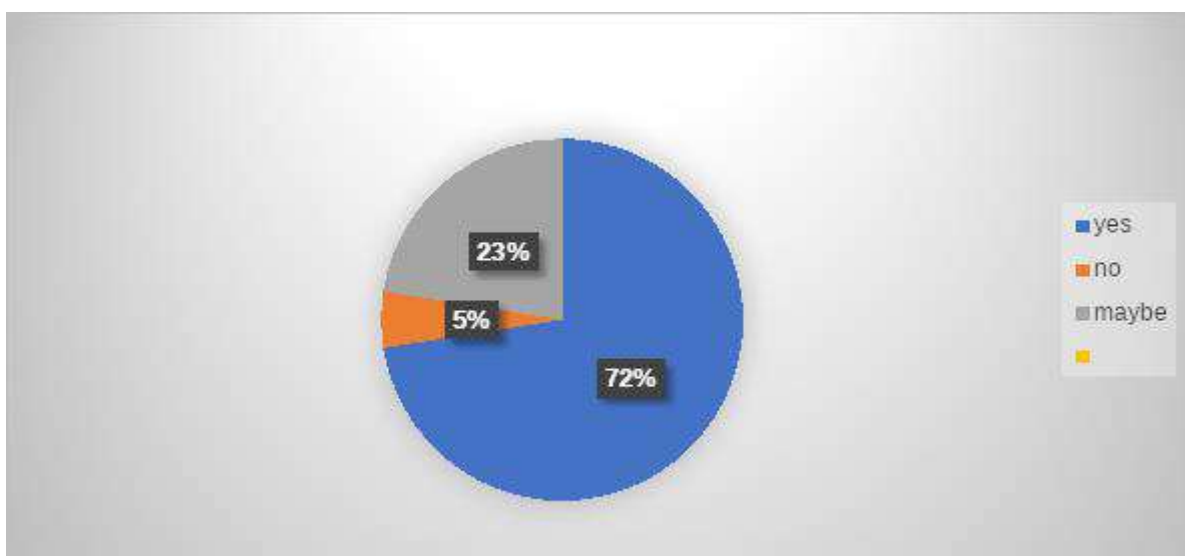
4. FINDINGS AND ANALYSIS

• Preference of Online shopping during covid-19 pandemic



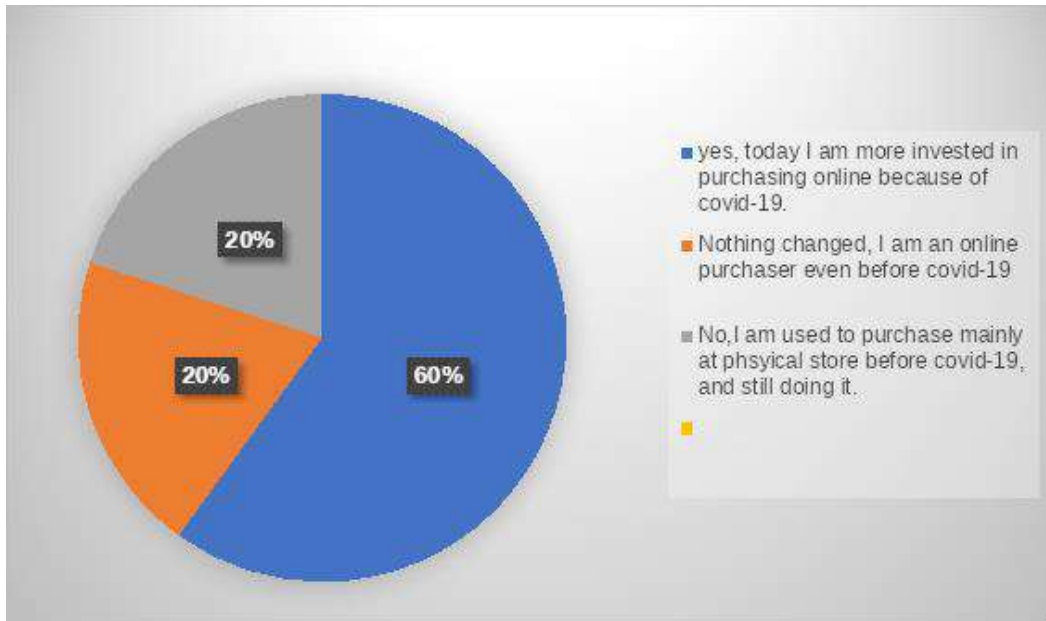
We conducted a survey to know about the consumers changing behavior during covid-19 pandemic. From the above we can understand the online shopping was preferred more during covid-19, since the spread of corona virus was high.

• Change in Consumers buying behavior in Covid-19 pandemic

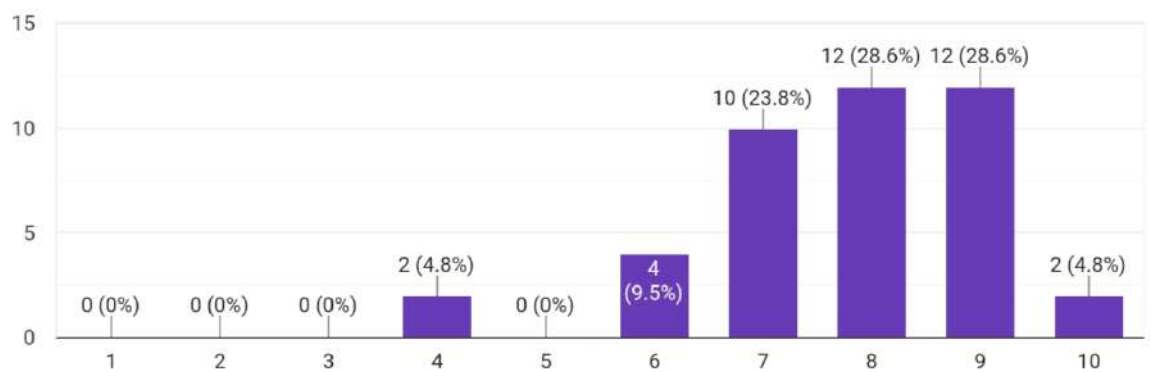


From the above we can clearly say Covid-19 pandemic has indeed changed consumer’s online buying behavior.

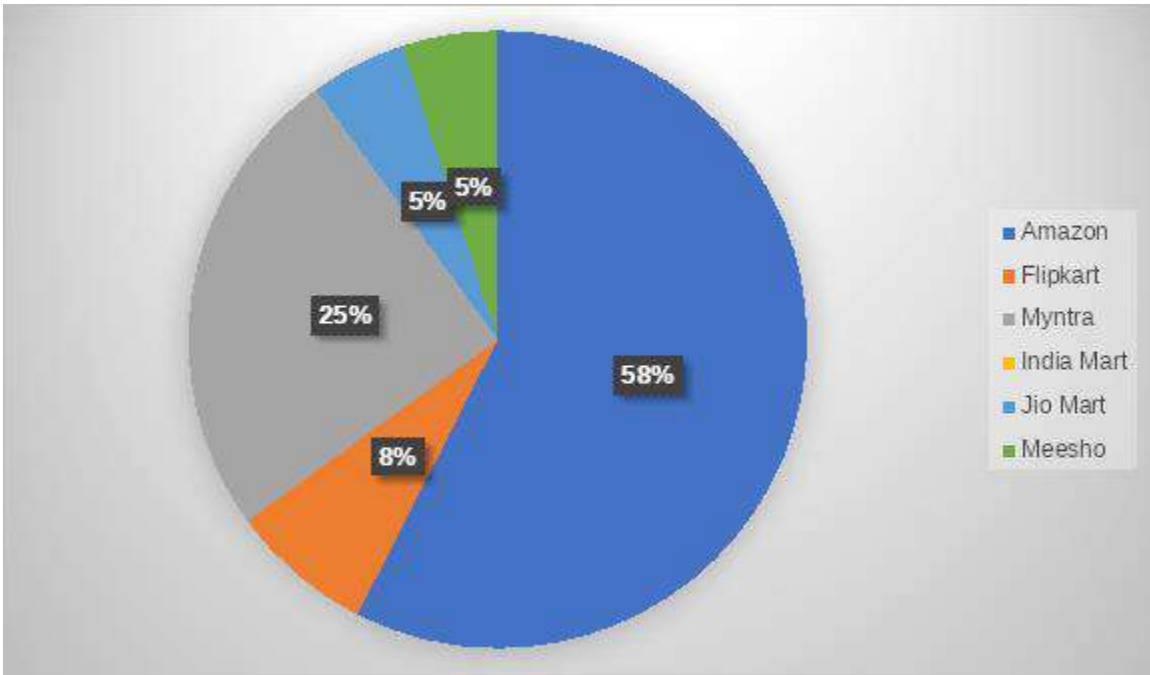
• Covid-19 have encouraged you to increase your purchase online



• Satisfaction from purchasing Online Products



• Which online shopping application do you prefer?



It is found that amazon is the most trusted application used by consumers during covid-19 Amazon is one of the world’s most valuable brands.

It was asked what do you prefer currently online shopping or offline shopping?



The changes noticed during covid-19 pandemic will stay for a longer time. Consumer’s get more discount, easy delivery of products in online shopping. Since online shopping is becoming more

easy and time saving, Consumer's will be more invested in online shopping. Physical store owners should also start selling their products online.

5. CONCLUSION

Covid-19 pandemic has indeed changed consumer's online buying behavior. However online shopping is done by many people now-a-days and more and more people might start shopping online on daily basis. Covid-19 total cases between 15-28 February was 20,790 in Maharashtra which means the cases have been decreasing day-by-day, The world is currently shifting to the normal life, students have started attending offline classes, people have started working in offline mode, still it is observed that consumers prefer online shopping in order to save their time and for better deals. Online shopping has widely increased due to covid-19, online shopping has many security threats, fake online stores, credit card fraud. To avoid such threats, Consumer should shop through trusted application which has been used regularly by everyone.

6. SUGGESTION:

People should always place orders from a secure connection to prevent their financial information and passwords to be stolen. Properly read about information, terms and conditions of products provided by sellers. Delivery person should be fully vaccinated and their body temperature should be checked before delivering the products. People should avoid using an e-store that requires more information than necessary to make the sale. Quality of the product must be the same as provided its information on online site.

7. WEBLIOGRAPHY:

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STUDY ON SOCIAL MEDIA ADDICTION

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ABSTRACT:

This research talk about the addiction of social media in different types of age group. Instagram is popular because many people appreciate its global reach. It's a way to connect and share. Instagram allows students to post and be creative. It is their way of expressing who they truly are.

KEYWORDS:

Social media, Behavioral changes and Physical problem.

INRODUCTION:

Studies have proof that over a last decade checking and scrolling through social media has become an increasingly popular activity. From 2017-2020 over 3.6 billion people were using social media worldwide. A number projected to increase to almost 4.41 billion in 2025. In the non-virtual world it as also observed that social media is a web based technology to facilitate social interaction and it's a common used of internet is to share and learn new information through Work, Google, Gmail, social media, app, online payments, etc. The use of social media is a frequent activity in day-to-day life. And it has also seen it attracts all ages, especially younger demographics such as teenagers which sometimes overly reliant on it.

REVIEW OF LITERATURE:

As Youth and Teenagers are the future of nation, and in this era they are grown up as part of the New Generation. They can easily use the latest technology in various forms, including smart phones, digital cameras, video games, iPads, electronic readers, and personal computers. Social Media has its both positive and negative effects. This research paper is based on secondary data collected from the online sources, different research papers and from the Google search engine. We also used some data gathering tools for gathering

information about the usage of social media in general. In this paper we study various social networking sites, various areas.

PURPOSE OF THE RESEARCH:

The purpose of this research is to find out the addiction of social media among the people and the time of usages.

OBJECTIVE OF THE RESEARCH:

- To understand negative and positive impact of social media addiction.
- To let us the reasons of addiction towards social media.
- To know the time spent by people on social media.

METHOD OF DATA COLLECTION:

- Primary data was collected through questionnaire from different age group.
- Secondary data was collected through different types of websites.

RESEARCH DESIGN:

- Exploratory method of research design was used in this study.
- Research has a descriptive nature.

DELIMITATION:

This research was conducted on 65 peoples of different age groups.

LIMITATIONS:

The research have physical and economical constrain.

DATA ANALYSIS METHOD:

Data is collected from people of different age groups to find the addiction and draw conclusion of the research study.

FINDINGS:

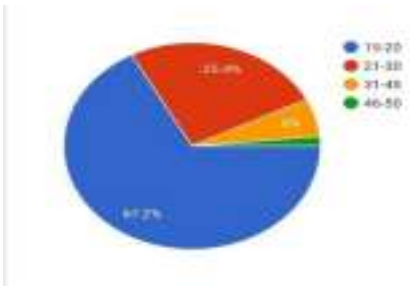
Addiction:



- 100% of the people use different types of social media platforms and have account ownership.

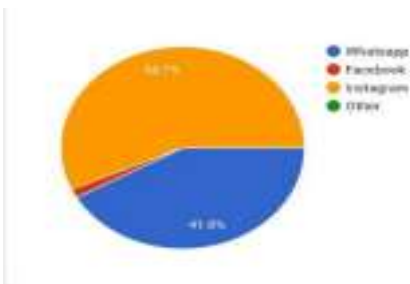
➤ 100% of people they have selected that they are using social media it has also observed that people likes to talk about themselves around 30%-40% of time. Own thoughts and experiences may be your favorite topic of conversation. And figure increases into 80% when communicating on social media.

Age Group:



➤ 67.2% Majority belong to the age group of 15-21 who are addicted to social media. ➤ The most important reason of social media addiction is the duration of usage youths mostly spend their free time in scrolling their feeds which is quite normal for them and it observed addicted to social media feel alone and left out if their data gets over or the phone on charging.

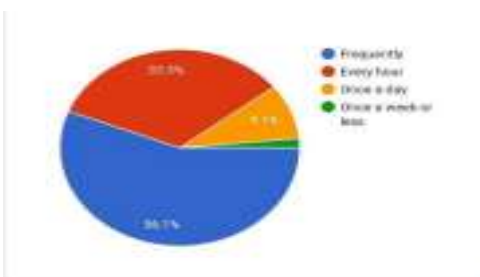
Social Media Platform Used Most:



➤ Approximately crowd of 56.7% of people use Instagram as their social media platform and 41.8% of them use Whats app and 2.5% of them use Facebook.

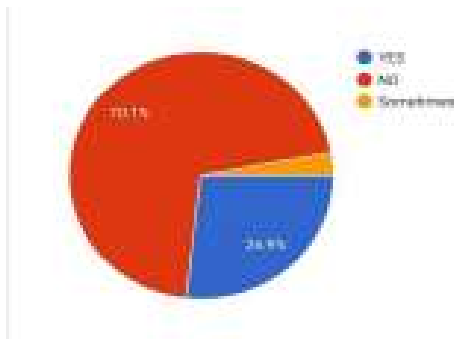
➤ Instagram is popular because many people appreciate its global reach. It’s a way to connect and share. Instagram allows students to post and be creative. It is their way of expressing who they truly are.

How often they visit Social media



➤ 56.1% of people like to visit social media platform frequently and 33.3% people visit social media once in every hour and 9.1% visits ones a day.

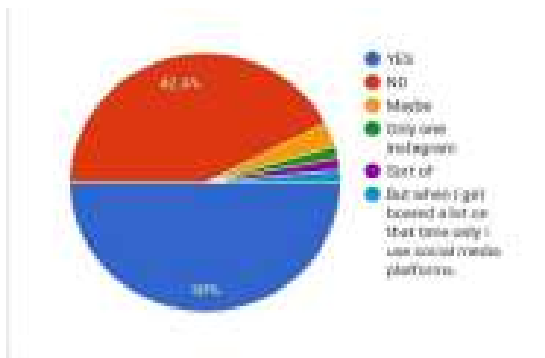
Habit of using phone while eating:



➤ Only 26.9% have a habit of using cellphone while having a food and 70.1% people avoid using social medial while having the food.

➤ Only 3% people use the cell phone sometimes while having the food.

Addicted to social media:



➤ 50% of crowd claim that they are addicted to social media and 42.4% of them refused that they are not addicted to social media.

CONCLUSION:

After research we came to the conclusion that there is a increase in people who are addicted to social media they cannot stay without scrolling on social media for an hour. As the technology is developing, the web-based social networking has turned into the routine for every last individual, people; groups are seen dependent with this technology consistently. Online networking has expanded the quality and rate of coordinated effort for students. Business uses online networking to upgrade an organizations execution in different courses, for example, to fulfill business goals, expanding yearly offers of the organization. Youths are found in contact with these media every day. Social media has different merits yet it likewise has a few faults which influence individuals contrarily. False data can lead the training framework to disappointment, in organizations wrong.

RECOMMENDATIONS:

- People should give only 2 hours for social media in a day.
- They should search about jobs and other opportunities on internet rather than just scrolling on different apps.
- Leave your phone and other electronic items out of bedroom.
- It's also important to take regular break from social media to get some real life grounding.
- Set limits and stick to them.
- Be aware of fake news and dark web while using internet or social media. ➤
Make time to cherish your hobbies and other activities.

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ATTRACTION OF STUDENTS TOWARDS PSYCHOTROPIC SUBSTANCES

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ABSTRACT:

Smoking and drinking share many detrimental effects, some of which operate synergistically. Over 90% of alcoholic inpatients are smokers, with similar findings regarding outpatients. In the general population, the relationship between smoking and drinking appears positive but modest. Nicotine appears to facilitate ethanol consumption and vice versa. While ample theoretical viewpoints exist to explain the covariance of alcohol and cigarette consumption, conclusive data supporting one or another of these views are lacking. The assumption that alcoholics should be discouraged from quitting smoking as well as drinking is without empirical basis. Research should ascertain whether problem drinkers with greater positive association between alcohol and smoking benefit differentially from quitting both.

KEYWORDS: Tobacco, Alcohol, Teenagers, Smoking & Addiction.

INTRODUCTION:

Introduction to Psychotropic Substances:

A drug is any chemical substance that causes a change in an organism's physiology or psychology when consumed. Drugs are typically distinguished from food and substances that provide nutritional support. A drug or other substance that affects how the brain works and causes changes in mood, awareness, thoughts, feelings, or behaviour. Examples of psychotropic substances include alcohol, caffeine, nicotine and certain pain medicines.

Many illegal drugs, such as heroin, LSD and cocaine. Consumption of alcohol and cigarette causes major health issues like cancer and liver problems in teenagers. The most common problems among young kids are respiratory infection, liver infection, lung cancer & throat cancer. Among adults who

have consumed alcohol and smoked daily, 70% had tried their first cigarette by the time they were 18 years of age, and 30% had by age 21 according to sources. Early smoking and alcohol last till adulthood.

REVIEW OF LITERATURE:

Williams (1965) Investigators also began examining psychological constructs related to excessive drinking. In a study comparing “problem drinkers” in college with “alcoholics,” Williams (1965) found that problem drinking fraternity men were more likely to check each of 24 unfavorable adjectives (e.g., cynical) to describe their “real self” than were non-problem drinkers.

A follow-up study of personality characteristics of college students using the Heliborne Need Scales demonstrated significant differences between problem and non-problem drinkers on 9 of 15 variables, differences that were considered in the context of theories of the development of “alcoholism”.

Warren CW, Jones NR, Eriksen MP, Asma S Global Tobacco Surveillance System (GTSS) Collaborative Group. Patterns of global tobacco use in young people and implications for future chronic disease burden in adults.

Descriptions of college student drinking patterns became more global as studies of college students in England, Ireland and multiple countries garnered more attention. These studies looked further at the context of alcohol use by considering rates of marijuana and tobacco use in addition to alcohol and documented major differences in cultural attitudes toward drinking. College undergraduates were no longer simply ready accessible research participants but rather had become the focus of research.

RESEARCH METHODOLOGY:

PURPOSE OF THE RESEARCH:

- Consumption of alcohol there are various effects on health which effects your overall body like there are various short-term effects like a sense of euphoria or giddiness
- Changes in mood lowered inhibitions impulsive behaviour slowed or slurred speech nausea and vomiting diarrhoeahead pain. Whereas Smoking cigarette can cause dangerous health problems like cancer and various health issues related to lungs.

OBJECTIVES OF THE RESEARCH:

- 1) To understand reason of young children consuming Alcohol and Cigarettes

2) To study the behaviour of Alcohol and Cigarettes.

3) To find out the cause of Alcohol and Cigarettes in youth.

METHODS OF DATA COLLECTION:

- Primary data: -I) Structured questionnaire. (Based on closed end multiple choice)
- Secondary data: -I) Online Articles
II) Reference of other Research papers.

RESEARCH DESIGN:

This research is descriptive in nature.

LIMITATIONS OF THE RESEARCH:

Students getting attracted towards Alcohol and Cigarettes.

DELIMITATIONS OF THE RESEARCH:

The research is conducted on 100 young students in Mumbai.

DATA ANALYSIS METHODS:

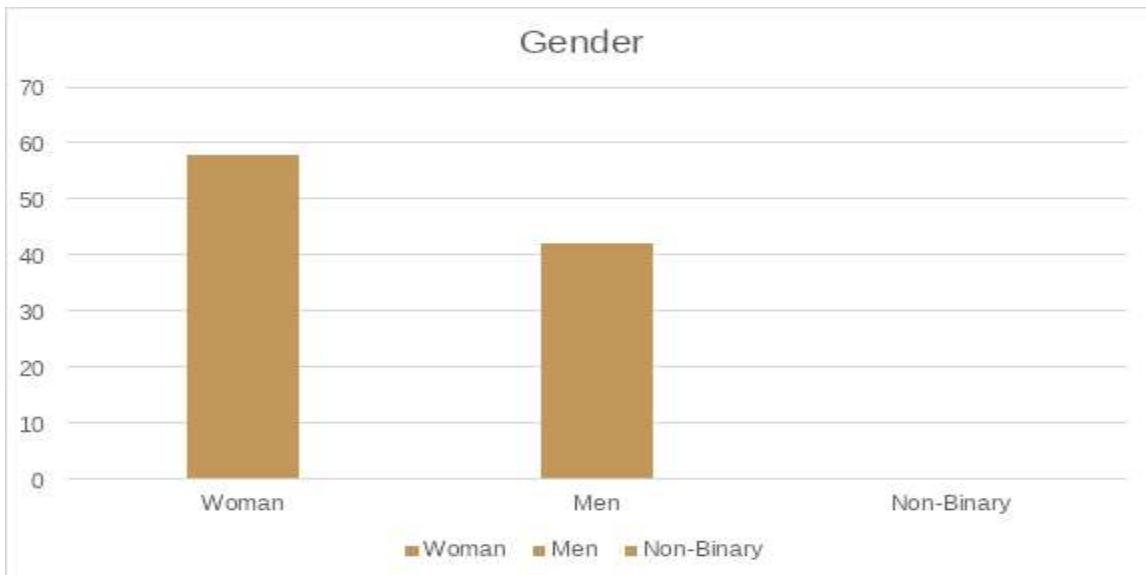
Data is collected from various website and news sources to generalize the findings and draw conclusion of the research study. Research was conducted in Mumbai city through questionnaire.

FINDINGS AND ANALYSIS:

A survey based on questionnaire type was conducted on few teenagers age between 14 to 21 years old in Parel of Mumbai, Maharashtra state. The survey included questions based on age, gender, consumption of cigarettes and drinks. The teenagers participated willingly and helped me complete the survey. Their consent was taken while filling the form and in case of teenagers below the age of 18 parent consent was taken.

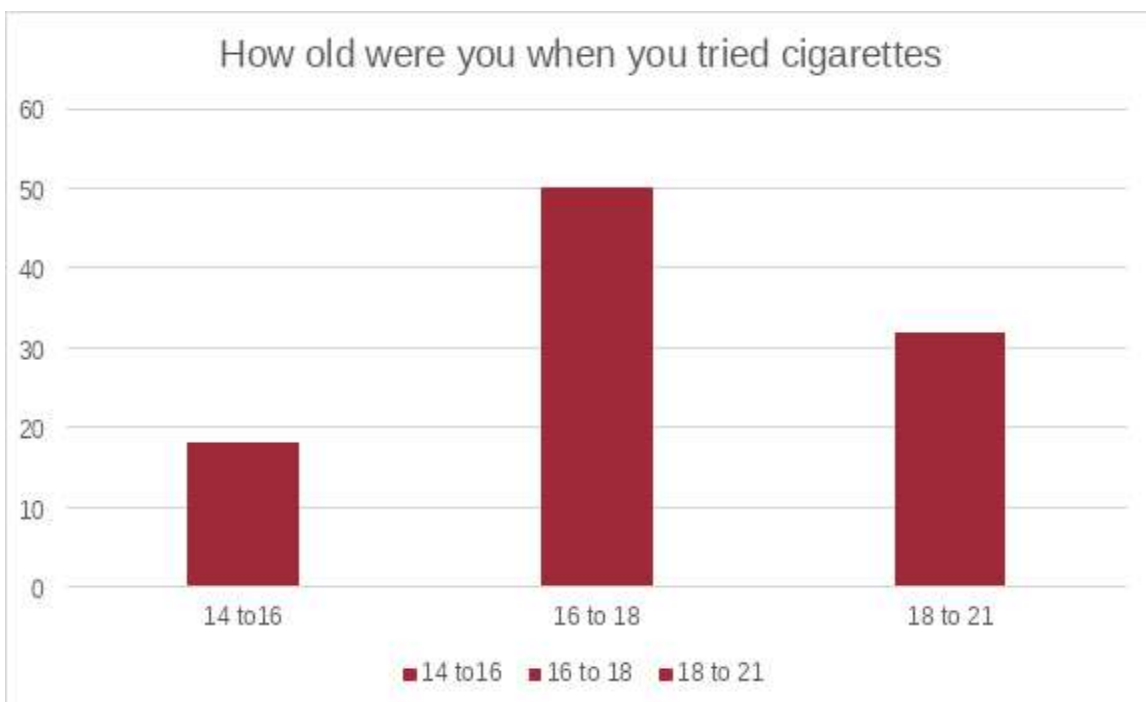
It is observed that many youngsters are into smoking and drinking alcohol. While conducting survey there was any extra question asked (why you consume alcohol or smoke cigarettes) majority said because their friends consume too some said due to family pressure cigarettes and alcohol helps as a stress reliever.

1) Gender:



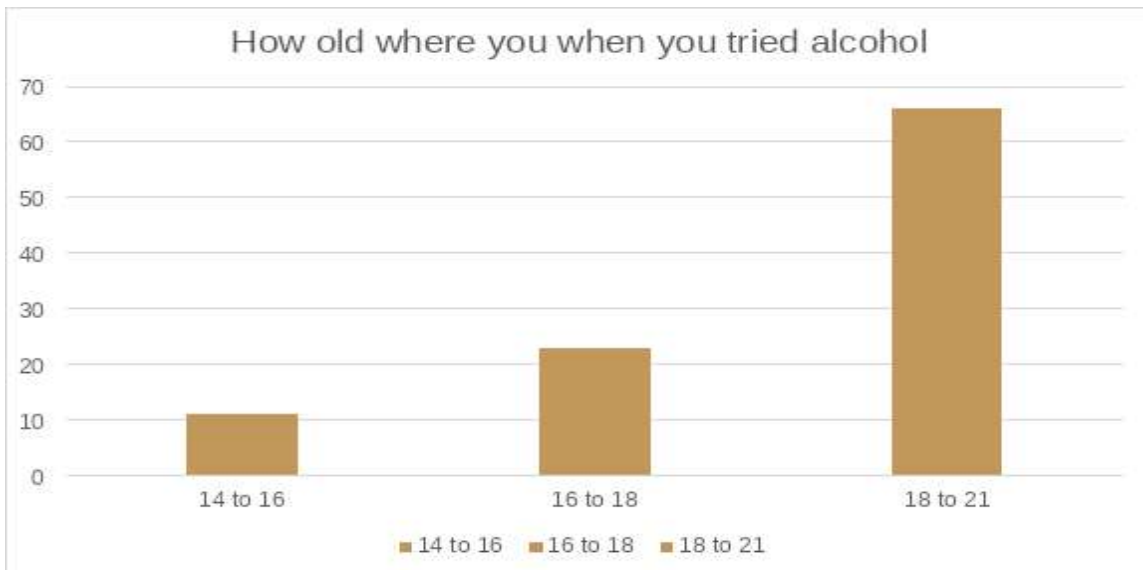
From the above we can understand that out of 100 people 58 are woman and 42 are men.

2) Age when you tried cigarettes:



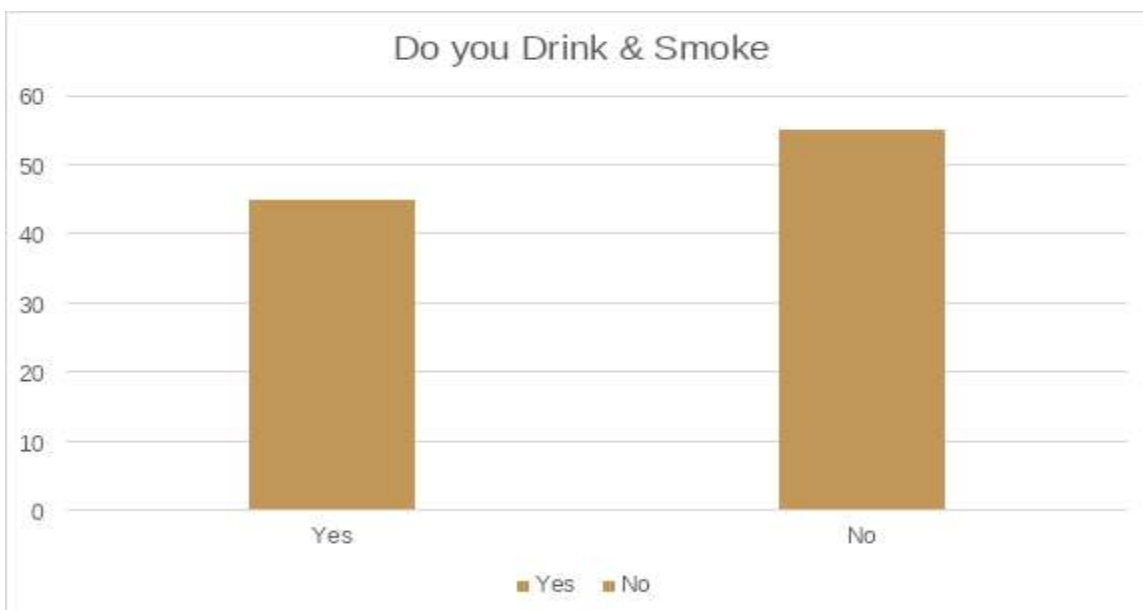
From the above chart we see the no of people who tried cigarettes in the age group of 14 - 16 years, 16 - 18 years and 18 - 21 years and the count is 18 students, 50 students and 32 students respectively.

3) Age when you tried alcohol:



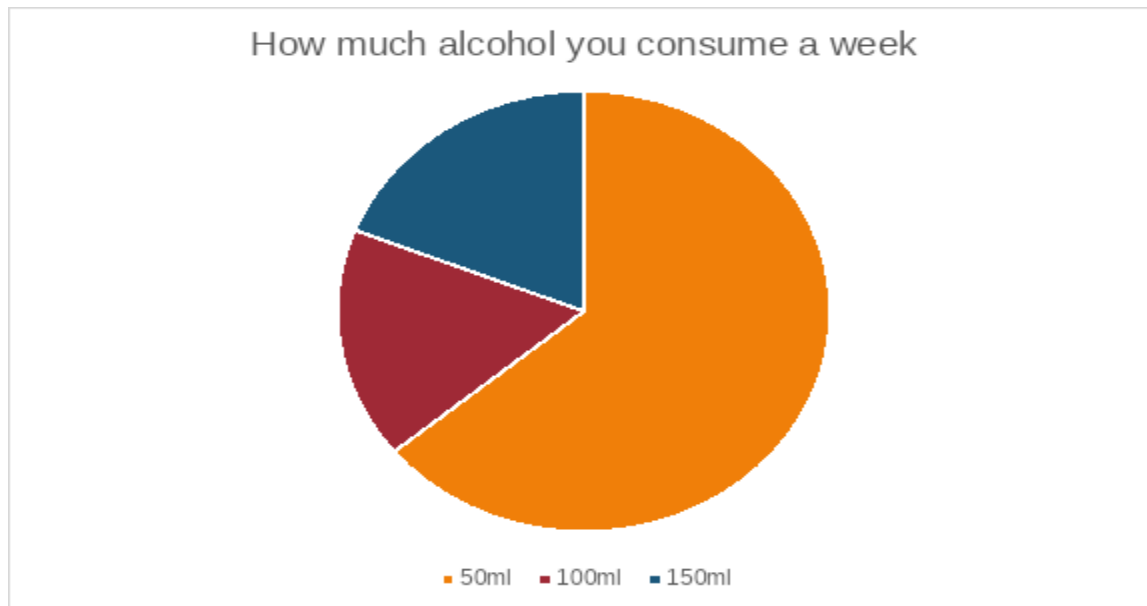
From the above chart we see the no of people who tried alcohol in the age group of 14 - 16 years, 16 - 18 years and 18 - 21 years and the count is 11 students, 23 students and 66 students respectively.

4) Respondent having habit of drinking and smoking:



The above graph represents the no of people who consume alcohol and smoke cigarettes.

5) Consumption of alcohol in a week:



The above graph represents the consumption of alcohol weekly.

CONCLUSION:

Smoking harms nearly every organ of the body, causing many diseases and reducing the health of smokers in general. Quitting smoking has immediate as well as long-term benefits, reducing risks for diseases caused by smoking and improving health in general. Smoking cigarettes with lower machine-measured yields of tar and nicotine provides no clear benefit to health. The list of diseases caused by smoking has been expanded to include abdominal aortic aneurysm, acute myeloid leukaemia, cataract, cervical cancer, kidney cancer, pancreatic cancer, pneumonia, periodontitis, and stomach cancer. These are in addition to diseases previously known to be caused by smoking, including bladder, oesophageal, laryngeal, lung, oral, and throat cancers, chronic lung diseases, coronary heart and cardiovascular diseases, as well as reproductive effects and sudden infant death syndrome. The main acute effects of ethanol are on the nervous system, causing characteristic changes in behaviour and judgement. There are particular issues with regard to driving, with different countries setting various 'safe' limits for blood-ethanol concentration. Very high blood-ethanol concentrations can be fatal. Hangovers are unpleasant and are poorly understood. Various mechanisms have been proposed including direct effects of ethanol on organs, ethanol withdrawal, accumulation of acetaldehyde and the effects of other chemicals present in alcoholic drinks. Many treatments are in common usage but there is little evidence of any particular intervention being beneficial. Alcoholic liver disease results from excessive drinking and includes fatty liver (which is the early reversible stage) and the more serious alcohol-induced hepatitis and cirrhosis. Excessive drinking can also lead to nervous-system damage resulting in dementia, and shrinking of central nervous system tissue.

SUGGESTIONS:

Media plays an important role as many of the teenagers see the alcohol and cigarettes brand advertising.

If the price of the alcohol and cigarettes are hiked, then there will be less chances of teenagers buying it.

If stopped at the right time then there are chances to get save from addiction and long-term effects.

Giving a real-life experience and explaining their outcome.

Spreading a message by conducting drives and spreading more information through social media.

Visit a therapist and get solutions for quitting alcohol and cigarettes.

Change the atmosphere and friends who force you on consuming cigarettes and alcohol.

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CHALLENGES FACED BY ELECTRIC VEHICLE IN THE INDIAN AUTOMOTIVE INDUSTRY

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ABSTRACT:

This paper is about the Indian market which is newly experiencing the electric vehicles as their mode of transport. This research is a brief of how the Indian market is reacting to the electric vehicles and challenges faced in the initial days. This study is done to help to know the Indian EV markets, the challenges and how to overcome those challenges.

Keywords: Indian EV market, Electric Vehicle's (EV)

1. INTRODUCTION

The term EV is used to denote as Electric Vehicles. The Electric Vehicles are eco-friendly vehicle which is operated through batteries. It helps to reduce pollution from the environment. The electric vehicles become cheap with respect to petrol/diesel cars because in EV the battery is charge on electric whereas in Petrol/Diesel Cars the fuel is needed to run which is 8x times costlier than the electric vehicles.

The government is also aiming to transform India into a global hub for electric vehicles manufacturing. In 2019, Faster Manufacturing of Hybrid and Electric Vehicles scheme was adopted by the government. It is important to note that FAME II policy which is the umbrella policy for India has been designed considering demand side incentives, where 86% of the funding is set aside for consumer incentives for EV purchases and 10% is allocated to fund charging infrastructure.

2. DIFFERENT TYPES OF EV

I. Battery Electric Vehicles (BEV)

BEV vehicles are fully electric vehicle. It can only run on battery and not by any other source. There is no emission by this vehicle which helps to protect environment fully. It is charged through external power source like DC and AC charges. This vehicle has a range of 250kms to 550kms with respect to the battery capacity in the car and on owner usage.

II Hybrid Electric Vehicles (HEV)

HEV type of vehicles includes both electric and fuel. The electricity is generated by the vehicle's own braking system. The energy produced by braking helps to generate electricity. This is called Regenerative Braking. The electricity generated through braking is used to ignite the engine whenever is used. It gives better fuel economy. It is not much environment friendly. For ex. Toyota Camry Hybrid,

III Plug-in Hybrid Electric Vehicle (PHEV)

PHEV vehicles are same as Hybrid Electric Vehicles; it generates electricity with the help of Regenerative Braking. This type of vehicles can run up to 65 km's on electric before the engine provides the further power. For ex. BMW i8, etc.

3. LITERATURE REVIEW

I. Prof Sunil R Pawar- Electrical Vehicle Technology.: The Future Towards Eco-Friendly Technology (2021) In this research the researcher has explained about the current and the future technology of electric vehicles. And how the Indian market will react to the introduction of totally new industry. What all will be the challenges to be faced by Indian consumer's as well as manufacturers. The researcher has said that electric vehicles will gradually start to gain demand in India. In future India will become a number one manufacturing hub in the world.

II. Mary Murphy Electric and Hybrid Vehicles (2019) In this book the author explain how the electric and hybrid vehicles will work. This study help us to know how Hybrid Electric Vehicles(HEV) principle's, design and technology is used. This book helped us to know the working of HEV vehicles and its functioning.

III. Anupam Singh Electric Vehicles end of Ice Age(2019) This book how the effect of electric vehicle will impact the combustion engines. How rapidly the growth of electric vehicles took place. This book help us to know about the history of EV and it's impact on the environment, oil demand and automobile dealerships. This book also guides the new EV buyers and including some popular EV models.

4. PROBLEMS OF ELECTRIC VEHICLES

4.1 Lack of Infrastructure

As India is newly introduced to the EV sector it is very difficult at the initial stage of the new technology. The lack of charging station is a challenge for both manufacturer's and consumer's. There are only few charging stations around the country that too limited to metropolitan cities like Mumbai, Delhi, etc. Because of which there is confusion in the minds of the consumer whether to opt for Electric Vehicles or go for fuel used cars.

4.2 Low range

Whenever electric vehicles come in mind it results in low range. The electric cars have low range compared to fuel used cars, and with the lack of charging stations the electric vehicles become unusable if you want to travel between states. The range and charging stations both are not in adequate quantity so that one may think to opt for electric vehicles.

4.3 Costly Vehicles

As it is an initial phase of EV in Indian market the pricing of the cars are high as compared to fuel used cars. Currently there are no cars which is affordable for Indian Consumers. In future the companies will evolve their technology and create a better budget friendly vehicle in future. Due to expensive vehicles the Indian population is unable to make full use of the EV's as in India people prefer budget friendly cars more than the expensive ones.

4.4 Electricity Demand will rise

As the growth of EV's takes place the need for electricity to charge the vehicles will also increase. As India ranks second most populated country in the world, the need will be more at national level. Because of which the electricity company's will think ways to generate electricity. Again it will be needed to generate electricity with the help of renewable energies such as solar, wind, tidal energy, etc.

4.5 Temperature Issues:

The temperature in the country includes both hot as well as cold. In India you can find cold in Uttarakhand, Shimla and hot in Rajasthan, Delhi this will affect the ability of the battery to give you the best performance. The temperature for ideal performance of electric vehicles are 16-20 degrees.

5. Indian government on Electric Vehicles (EV)

Indian government is now currently allowing 100% FDI in electric vehicle manufacturing. This has invited many countries around the globe to set up a business in the market. Along with FDI Indian government is also allowing certain subsidies to the consumers those who are willing to buy their first Electric Vehicle. The Indian Government will be able to replace petrol & diesel cars 90% electric by the

year 2030. The government is also looking to make India a top manufacturing company for electric vehicles.

6. RESEARCH METHODOLOGY:

This research is made to study and find out the challenges faced by EV in the Indian market. And how did India adopt electric vehicles as their mode of transport for future.

6.1 Methods of data collection

- a) Case study
- b) Secondary data collection
- c) Personal surveys
- d) Articles published

6.2 Limitations & delimitations of research

6.3 Limitations

This data is limited to secondary data

This study is limited with time constraints

6.4 Delimitations

This research has certain boundaries of studies.

This research data is collected from 2016-2021.

6.5 Area of research

This research is done on Indian EV market.

6.6 Research design

The research is descriptive in nature.

7. CONCLUSION:

From the above information we can conclude that the ev has reached late in the Indian market. The main reason is India is a developing nation and there will be difficulties in any new concept if it is launched newly.

8. SUGGESTIONS:

The future of India is electric. Within a span of 10 years we will see more electric cars and less fuel powered cars. I would suggest you to go for an electric car as this will help encourage our upcoming youths to save environment and lead a better lifestyle.

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DEMONETIZATION IN INDIA: A BENEFIT OR A SCOURGE FOR THE COMMON MAN

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ABSTRACT:

Demonetization was a huge step made by the Indian government to combat black money in the country. The policy's core idea was to eliminate corruption from the existing system and economy. The main goal of this research is to study the effects of Demonetization on Indian economy and to investigate public's reaction to policy and to understand their hardships due to the implementation of the policy.

INTRODUCTION:

Every country's government strives for long-term prosperity, which can only be achieved by eliminating the major evils of the society like corruption, black money and terrorism. Demonetization, 2016 is a good example of this. The initiative has struck a fatal blow to the parallel economy, which casted its ominous shadow on the nation's economy. Demonetization necessitates a cashless and digital India. People were encouraged to go cashless by adopting and adapting to the digital mode of financial transactions. This study seeks to understand the views of the common man on digitalization of economy as well as how they react to this initiative of demonetization. Demonetization is the act of stripping a currency unit of its status as legal tender. It is the process of withdrawing a currency from widespread circulation or use. Government of India in a historic decision demonetized the notes of Rs.500 and Rs.1000 on 8th November 2016. Prior to demonetization,

there was high amount of black and counterfeit currency notes in Indian market. Also, there was high amount of untaxed currency available with individuals and agencies in form of hard cash. Getting such counterfeit and untaxed money back into the mainstream was necessary to strengthen the nation's economy and banking system.

REVIEW OF LITERATURE:

➤ The impact of demonetization on the general populace was researched by (Beg & Joshi, 2017; Dash, 2017; Koshy, 2017; Mahajan & Singla, 2017; Mishra, 2017; Mahindra & Mukherjee, 2018). According to their findings, demonetization primarily harmed ordinary individuals rather than the main donors to black money. The poor suffered as a result of its effects. Indeed, many people now have limited access to cash in their daily lives as a result of demonetization.

STATEMENT OF PROBLEM:

The study shows that demonetization had the greatest impact on agriculture sector when compared to manufacturing and service sector. It negatively impacted the Lower Income class. The study also shows that half of the educated class economy are ignorant of recent modes such as Aadhar Enabled Payments, Unified Payment Interface, USSD, and others that have been implemented to make going cashless easier. As a result, one might envision the condition of the common man.

OBJECTIVES:

- To study the impact of demonetization on the Indian economy.
- Evaluating the effectiveness of demonetization on various sectors of economy.
- To gain a better understanding of the impact of demonetization on the educated common man.
- To determine the extent to which people have embraced and adapted to cashless payment methods, which reflects the readiness of the people to Go Digital.
- To study if the policy implementation was effective.

SCOPE:

The scope of this research is to highlight the advantages and disadvantages of demonetization in India and also analyze the extent of beneficiaries of this movement in a longer run. The scope of this study ranges on a wide spectrum which can help people understand demonetization and its impact.

LIMITATION:

- The period of study is 2016-2017.
- This study is based on RBI reports and various electronic and print reports.
- The scope of this research is limited to the general public.

DELIMITATION:

- The population being large, the current study focuses on sample survey of a minor representation of the educated working class.
- There was no geographical restriction.

RESEARCH METHODOLOGY:

- Data collection- R.B.I Portal was used to acquire secondary data. • Data analysis- The study analyzed the reaction of general public to the implementation of demonetization policy.
- Respondent's responses were collected using questionnaire method.

FINDINGS-

- The questionnaire findings show that 66.7% people believe that demonetization will help India eliminate black money.
- The other interpretation drawn from questionnaire is that the majority of respondents have the opinion that demonetization helps in reducing corruption.
- The questionnaire reveals that lower income group was most affected by demonetization policy.
- Majority of the respondents rely on other modes of payment besides liquid cash such as E-wallets, net banking, etc and are aware about the other financial transaction modes such as Unified Payment Interface, USSD.
- According to the descriptive statistics, demonetization boosted the number of bank account holders in India.
- Demonetization had little influence on tax evasion and unlawful black money investments.
- But the policy adversely affected the regular business in the country.

CONCLUSION:

- The study explores the efficacy of Demonetization from India's common man perspective, the policy implemented by Indian government to fight against black money and direct the civilization towards digital transactions and cashless economy.
- Majority of respondents feel that the policy was well planned. The government implemented the policy at the right time, meticulously

managed money circulation throughout demonetization, and gave people enough time to replace their old notes.

RECOMMENDATIONS:

- The possible solutions which could be effective for the country and its economy which was affected by the act of demonetization could be;
- It is possible to implement a widespread network of mobile ATMs in rural areas. During the demonetization, mobile ATMs proved to be the most convenient and eye-catching method. This had also aided the pressured banking sector in streamlining its operations. As a result, special efforts can be made to extend these mobile ATMs to rural areas and areas where ATMs are scarce or absent.
- The establishment of a currency exchange desk has proven to be beneficial and pleasant to most businesses. Employees were able to exchange their old cash notes for valid official identification credentials. ATMs are being upgraded to make them fully functional for the issuance of fresh notes. The general people praised this public-private partnership.

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Impact of social media on Youth

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ABSTRACT:

The widespread usage of social media among India's new generation of youths is on the increase. In today's society, the usage of social media has become a vital part of a person's daily life. This research sheds light on the social media usage pattern and its influence on youngsters. The new age networking culture has been welcomed and received a positive reaction. According to the research, social media has both beneficial and bad effects on youngsters.

KEYWORDS: Social Media, Social Networking, Impact and Youth

INTRODUCTION:

Social media refers to a variety of programmes and websites such as WhatsApp, Facebook, Twitter, LinkedIn, and YouTube, among others, via which individuals exchange information and celebrate big events that occur around them. Social media has been in use since the early twenty-first century. Social media applications improve possibilities and engagement for learning diverse foreign languages. With the rise of social media, the globe has shrunk to the size of a hamlet. Users of social media sites may interact with other people in seconds, share their views, and make opinions on a variety of topics and situations. People from other cultures may also discuss any topic and look out facts about other nations.

The National Youth Policy (NYP)-2014 defines "youth" as anyone between the ages of 15 and 29. Youth and students utilise social media for a variety of reasons, including learning, pleasure, and creativity. Social media has an impact on the lives of young people, both positively and negatively. Assad Ali et al. (2016) discovered in their research that social media plays an important role in providing students with learning and career chances.

LITERATURE REVIEW:

According to Livingstone and Bober (2003), the major cause of the generation gap is the rising usage of social media, and individuals have forgotten their rituals and customs as a result of the misuse of social media.

According to Brady, Holcomb, and Smith (2010), social media has offered a suitable platform for education, and students utilize social media for e-learning.

According to Lusk (2010), students can utilize social media for academic purposes. Students can improve and gain new communication skills. Social media includes new web tools that students may utilize to boost their learning skills.

According to Kalpidou, Costin, and Morris (2011), there is a relationship between social media and grades, but according to Jacobsen and Forest (2011), social networking has a negative effect on grades, and two-thirds of students who use social media while doing homework have a negative impact on their grades. According to a research conducted by Ohio State University, students who spent the majority of spending time on social media had lower marks than those who did not spend their time on social media.

OBJECTIVE OF THE STUDY:

The primary goal of this research is to examine the influence of social media on youth. It will also analyse how young utilise social media in their daily lives, as well as its influence on youth in terms of educational learning, entertainment, job search, communication, skill enhancement, and online purchasing.

RESEARCH METHODOLOGY:

The current study used a descriptive research design, which examines the features of a group of individuals, as well as their perceptions about social media and its influence on children. The study is of a qualitative character.

SOURCES OF DATA:

The structured questionnaire was used to acquire primary data from youngsters. Secondary data was gathered from numerous papers, journals, and magazines. For this investigation, juveniles are used as sample units. This study's sample size is made up of 50 young people.

LIMITATION OF THE STUDY:

According to the researcher, respondent information bias may somewhat reduce the accuracy of findings.

SOCIAL NETWORKING ASPECTS:

There are numerous advantages to social media, but there are just as many disadvantages to using various social media tools.

Positive Aspects

Education: Social networking tools enable people to exchange a few thoughts. It enables a person on one end of world to interact with and share ideas with someone on the other end of the world. It is not only a source of enjoyment, but it is also influential. Its advantages can be used to achieve beneficial educational outcomes.

Awareness: Students can utilize social media to spread social awareness and kindness.

Social Advantages: Social networking platforms might assist children in connecting with peers. Social networking platforms allow young people to pursue their lives without being constrained by small conversation.

Job Opportunities: In reality, many firms have their own Facebook sites where they exchange data with other people. Furthermore, its influence on recruiting has grown steadily. Companies locate eligible applicants for vacant vacancies in their organization creates profile pages on social, particularly LinkedIn, Facebook, and Twitter, in addition to the corporate website.

Negative Aspects

Inadequate privacy: Social media has radically altered how individuals communicate with their friends, acquaintances, and family members. Although social networks such as Twitter, Facebook, Google+, and YouTube play an important part in our daily lives, they offer substantial privacy dangers. When utilizing these social networking sites, it is critical to be aware of and appreciate the privacy issues associated.

Social media is a waste of effort for a variety of reasons, including: -

- Spending time on social media sites
- Impacts on health, education, and employment

DATA ANALYSIS:

Table 1 shows the respondent's age group in detail.

Age Group	No. of Respondents	Percentage
Below 18	02	4%
18-25	34	68%
26-30	14	28%
Total	50	100%

Interpretation

According to the above data, 68 percent of respondents are between the ages of 18 and 25, 28 percent are between the ages of 26 and 30, and 4 percent are under the age of 18.

Table 2 shows the various modes of access for social media programs.

Mode of access	No. of Respondents	Percentage
Mobiles	42	95%
Laptops	08	5%
Desktop Computer	00	0
Total	50	100%

Interpretation

According to the above table, 95 percent and 5 percent of respondents use social networking programs via mobiles and desktop computers, respectively.

Table 3 Tools of social media used.

Tools of Social Media	No. of Respondents	Percentage
Whatsapp	10	20%
Facebook	15	30%

Instagram	15	30%
Twitter	3	6%
Others	7	14%
Total	50	100%

Interpretation

According to the above data, 20% of respondents use WhatsApp, 30% use Facebook, 30% use Instagram, 6% use Twitter, and 14% use other types of social media.

Table 4 shows how many hours a day people spend on social media.

Parameters	No. of Respondents	Percentage
1-2 hrs	12	24%
3-4 hrs	20	40%
More than 4 hrs	18	36%
Total	50	100%

Interpretation

According to the above data, 24 percent of the respondents spend 1-2 hours per day on social media, 40 percent spend 3-4 hours per day, and 36 percent spend more than 4 hours per day on social media.

Table 5 Purpose of using social media

Purpose of using social media	No. of Respondents	Percentage
To keep updated with news/trends	11	22%
To feel the sense of belongingness	2	4%
Communication & Connect with friends & family	13	26%

Sharing posts	9	38%
Social awareness	10	20%
Shopping	5	10%
Total	50	100%

Interpretation

According to the above table, 22 percent of respondents said that their primary reason for using social media is to stay up to date on news/trends, 4 percent of respondents feel a sense of belonging, 26 percent of respondents primarily used social media to communicate and connect with friends and family, 38 percent of respondents said that their primary reason for using social media is to share posts, and 20 percent of respondents said that.

Table 6 Mental state while using social media

Parameters	No. of Respondents	Percentage
Motivation	11	22%
Happiness	10	20%
Boost Self Esteem	07	14%
Being alone	05	10%
Inspiration	08	16%
Others	09	18%
Total	50	100%

Interpretation

According to the above data, 20% of respondents feel joyful while using social media, 14% stated it promotes self-esteem, 22% felt driven, 10% being alone, and 16% were inspired.

FINDINGS AND RECOMMENDATIONS

1. Findings

This research looked at the effects of social networks on youth. The results showed that 20% of respondents said they have benefits/positive impact of gaining knowledge from social media, while

another 20% said they have benefits of staying in touch with friends via social networks, 28% said they have advantages like fun and entertainment, and 18% said they have benefits like looking for job opportunities. The findings also show that social media causes health problems and has an impact on our societies. Users must remember cultural values and social standards when utilizing social media.

2. Suggestions

- It is encouraged that people on social media recall the objective of utilizing social media and continue to utilize informational sites while also being conscious of privacy risks associated with the usage of applications.
- Adolescents should spend their time properly on social media for improved social networking rather than squandering it on casual chats and postings on Facebook, Twitter, Instagram, Whatsapp and Youtube.
- To protect children's futures, instructors and parents should monitor what they do on social media.

CONCLUSION

According to research, social networking has both beneficial and harmful effects on our kids. Youngsters must be clear about the objective of their use of social media and also how long they stay online in order to make it advantageous to their individual and interpersonal networking goals.

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REASONS BEHIND SUDDEN INCREASING CASES OF OMICRON IN MUMBAI

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ABSTRACT:

This paper talks about why there was increase in cases of Omicron in Mumbai. Analysis of vaccinated population and their behaviour after vaccination is mentioned. Main symptoms and their cure are analysed in this paper. Data regarding which regions were affected is mentioned in this research paper.

KEYWORDS: - Virus, Omicron, Transmissible

1.INTRODUCTION

The Omicron variant is a variant of SARS-CoV-2, the virus that causes COVID-19. This latest variant of the virus is believed to be more transmissible than the already highly transmissible Delta variant. International studies from South Africa or the United Kingdom indicate that the virus remains in the upper airways and doesn't penetrate lung tissue or cause clotting disorders like its earlier variants—Delta or Alpha. After knowing that a new variant of COVID has been identified, the whole world is not panicking about this. Hence, Omicron is causing a lot of upper respiratory symptoms such as cold and flu but not major lung complications. The COVID Variant "Omicron" has a large number mutation and that is why the whole world is in fear of this variant. Most of this anxiety is due to the lack of information available. Variants classified under concern are rapidly transmissible from one person to another and with a higher fatality rate, and the overall effectiveness of the treatment is comparatively less.

2. REVIEW OF LITERATURE:

1. Dr. Richard Lessells: Omicron Seen Up Close in South Africa (2021)

Dr. Richard Lessells is among the exceptional South African experts on the front lines of discovering and investigating Omicron in South Africa. Alarm bells went off within the scientific community, as it became clear after just a few days that “an extraordinary number of mutations” are clustered in the key regions in the genome for immune protection and transmissibility. It was a “gut feeling.” Omicron is highly transmissible, spreading very efficiently in a population with high levels of immunity gained from previous infection and in some cases from vaccination. How long to know just how dangerous Omicron is? It’s “too early to tell.” Lab work is underway to understand whether the virus affects T cells which are central to immune protection against severe disease. Why do we see such an unusual variant in South Africa? One theory, which Omicron may shed light on, is that the SARS-CoV-2 virus finds hosts who are very immune-compromised, persons living with HIV but not on anti-viral therapy. These individuals have difficulty clearing the virus, which permits it to replicate constantly over a very long period. Is this moment a pivot in the pandemic? That depends on whether Omicron significantly sets back vaccine protection, which would be a “step change.” Will this moment shock the world into more concerted global action, superseding the pattern of “vaccine apartheid”? “I remain skeptical.” In the meantime, we have to fight against Omicron being fitted to a politicized narrative: by anti-vaccine groups, to tell the story that vaccines do not work. By others, to argue that there is nothing to worry about, that the virus is becoming less pathogenic, based on anecdotal evidence.

2. Christian Althaus (2021)

Researchers will be watching how Omicron spreads in other parts of South Africa and globally to get a better read on its transmissibility, says Christian Althaus, a computational epidemiologist at the University of Bern, Switzerland. Heightened surveillance in South Africa could cause researchers to overestimate Omicron’s fast growth. But if this pattern is repeated in other countries, it would be very strong evidence that Omicron has a transmission advantage, adds Althaus. “If it doesn’t happen, for example, in European countries, it means things are a bit more complex and strongly depend on the immunological landscape. So we have to wait.”

3. Aris Katzourakis (2021)

How well the variant spreads elsewhere might depend on factors such as vaccination and previous infection rates, says Aris Katzourakis, who researches viral evolution at the University of Oxford, UK. “If you throw it into the mix in a highly vaccinated population that has given up on other control measures, it might have the edge there.”

4. Tom Wenseleers (2021)

When Delta was the predominant variant and cases were falling suggesting that Omicron has the potential to spread much faster and infect vastly more people than Delta, says Tom Wenseleers, an evolutionary biologist at the Catholic University of Leuven in Belgium. Based on the rise in COVID-19 cases and on sequencing data, Wenseleers estimates that Omicron can infect three to six times as many people as Delta, over the same time period. "That's a huge advantage for the virus — but not for us," he adds.

5. **Komalatha Nakkala, K. S. Laddha, Santhosh Kumar Ettaboina (2021)**

SARS-COVID-19 is a highly transmissible infection; previous reports revealed that it was started in the earlier years (MERS-COV) , but later predictable people were identified with corona infection in

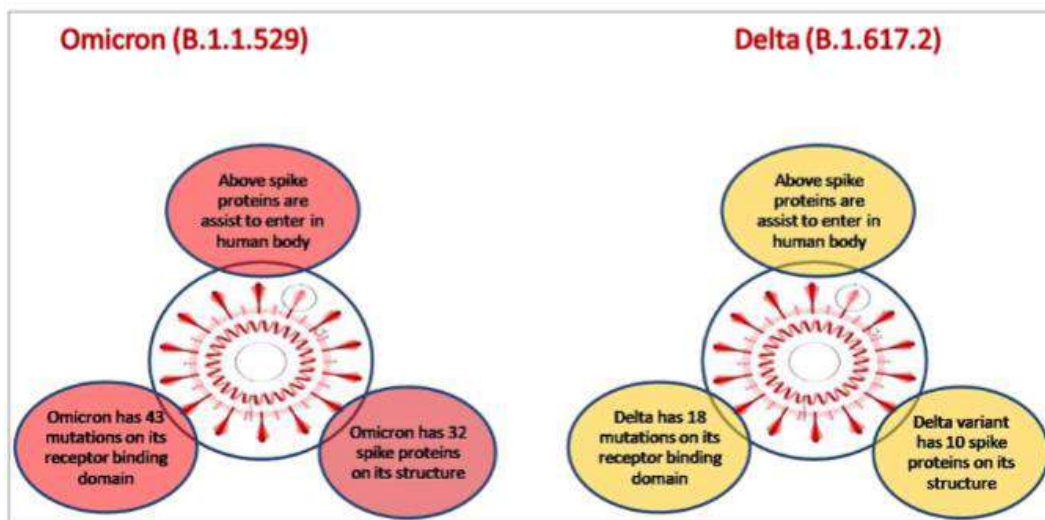


Figure 2. Different spike proteins between delta and omicron variants of SARS-COVID-19-2

December 2019 in Wuhan China, they reported pneumonia with unknown cause . Afterward, the same cases were reported all over the world. Then WHO recognized it and named it COVID-19; positive people were increased day by day with the unpredictable spreading of infection throughout the world in March. The whole world was imposed lockdown due to the pandemic situation . So, from that time onwards, scientists worked on COVID and tried vaccines.

3.RESEARCH & METHODOLOGY

3.1. PURPOSE OF THE RESEARCH

For Omicron there's a diminished hazard of hospitalization compared to the Delta variation. But World Health Organization cautions that it ought to not be rejected. Expanded transmission is anticipated to lead to more hospitalizations. That increment causes strain on cutting edge specialists and healthcare

frameworks, which in turn can result in more deaths. It is imperative to keep in mind that all variations of COVID-19 can cause serious illness or passing, counting the Delta variation that's still overwhelming around the world, which is why avoiding the spread of the infection and lessening your hazard of introduction to the infection is so important.

3.2. OBJECTIVES OF THE RESEARCH

- To analyze main reason for the spread of the virus Omnicron
- To analyze which age group is most affected
- To analyze the treatment protocol made
- To Analyze which region in Mumbai have maximum cases
- To analyze symptoms of the virus
- To analyze the number of people vaccinated

3.3. METHODS OF DATA COLLECTION

Primary data:- i) Structured questionnaire (Based on closed end multiple choice) Secondary data:- i) Online Articles. ii) Reference of other Research papers.

3.4. AREA OF RESEARCH

Research was conducted in Mumbai city through Microsoft forms

3.5. DELIMITATIONS OF THE RESEARCH

The research is conducted among citizens of Mumbai.

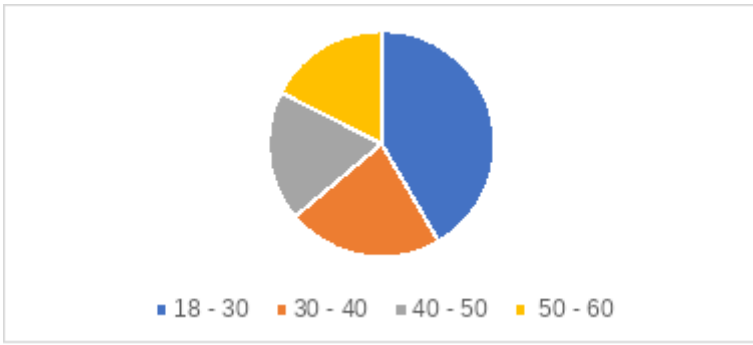
3.6. LIMITATIONS OF THE RESEARCH

The research has physical and economical constraint.

4. FINDINGS AND ANALYSIS

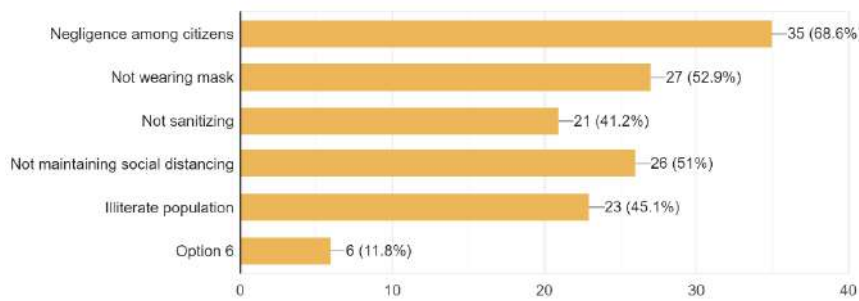
A descriptive cross-sectional survey was conducted among youngsters, middle aged and senior citizens of age from 18 to above 50-year-old population in Kurla of Mumbai of Maharashtra.

I.VACCINATED POPULATION



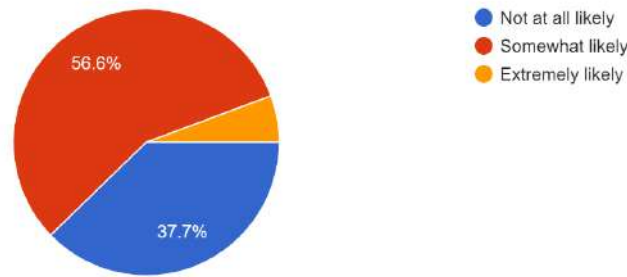
The majority of population vaccinated is from 18- 30 years. Vaccination of 67% of its population above 45 years with at least one dose.

II. REASONS BEHIND OMNICRON SPREAD



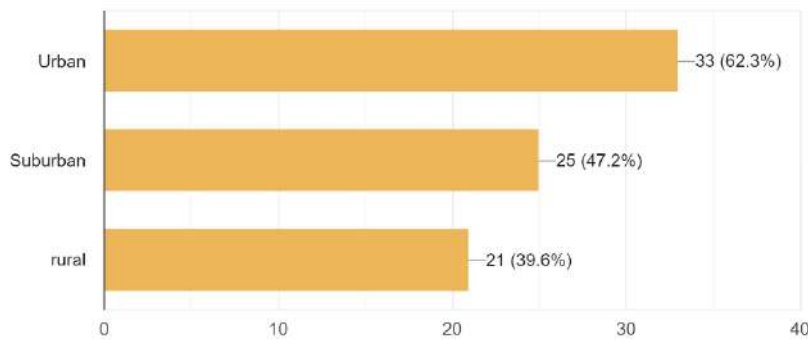
In above graphs, we can know that majority of people feel that the main reason for spread of omicron is because of negligence among citizens. Since, the lockdown has been lifted, public places are crowded and public is not practicing social distancing. The illiterate population in India is another reason why there was a rapid spread of omicron. Not wearing mask and sanitizing themselves regularly are the other reasons.

III. VACCINATED CITIZENS FOLLOWING PROTOCOLS



As per above diagram we get to know that very few people don't want to wear mask at all as it is a bit heck of irritation specially in summer when we sweat a lot.

IV. REGION AFFECTED BY OMNICRON



Above graph shows that maximum affected population is from urban area followed by suburban and then rural. This is because government has lifted lockdown on public transportation, restaurants, retail stores, etc.

V.SYMPTOMS OF OMNICRON

Through this study we know that the Omicron could be a moderately modern variation of the coronavirus. A few indications related with the Omicron virus are as follows:

- Low-grade fever
- Pain and itchiness within the throat
- Cough
- Loss of taste and scent (less common)
- General shortcoming and tiredness
- Headache

- Severe body torment which meddling in any work
- Diarrhea
- Skin rashes

VI. GOVERNMENT PROTOCOLS

- One must wear cover legitimately, get completely vaccinated.
- In closed spaces as it were individuals upto 50% capacity allowed.
- In open spaces as it were individuals upto 25% capacity allowed.
- If a gathering with over 1,000 individuals is arranged and one must priorly take authorization of Nearby Fiasco Administration Specialist is must.

5. CONCLUSION:

Omicron begun spreading quickly in Maharashtra in 2021, a unused variation of covid-19, most noteworthy contaminated individuals in one single day in Maharashtra is 85. Omicron is able to duplicate 70 times quicker in human bronchial tissue than the until-now-dominant strain. In case Omicron can avoid neutralizing antibodies, it does not cruel those resistant reactions activated by immunization and earlier contamination will offer no assurance against Omnicron. Agreeing to study most extreme sum of individuals have been immunized, dodge aiming to swarmed places, maintain social removing, sanitize as often as possible. Still this infection oversees to contaminate so much individuals since there are a few sums of individuals who do not need to wear mask because they are inoculated and think no infection can contaminate them. Usually, the most reason why there was upheaval of Omnicron.

6. SUGGESTIONS:

With the increment within the number of reported cases, we got to take additional safety measures to anticipate ourselves from getting contaminated. The measures for avoidance are the same as for the other variations of coronavirus.

- Wear veil appropriately
- Maintain social distancing
- Follow legitimate sanitization practices
- Maintain legitimate hygiene
- Avoid reaching your eyes and mouth repeatedly

- Take both measurements of covid vaccination
- Have appropriate ventilation in working areas
- Avoid swarmed places

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RETAIL BANKING TRANSFORMATION STORY IN POST LIBERALIZED INDIA

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ABSTARCT:

This paper talks about retail banking sector's rapid growth after the liberalization 1991, it investigates commercial banks as well as smaller community banks which are usually made available retail banking products and services to their customers. It explains entities dealing with retail banking that provides a wide range of personal banking services, which includes offerings services and checking accounts, bill paying services. As well as debit and credit cards.

Keyword - Retail Financial Services, Retail banking in India, Retail finance status, Future growth strategy.

1.INTRODUCTION:

Retail banking, also known as consumer finance, is a bank's service to the public. Unlike companies, corporations, or other banks, often referred to as wholesale banks, banking services that are considered retail include providing savings. Trading accounts, mortgages, personal loans, debit and credit cards. Retail banks are also different from investment banks or commercial banks. It can also represent the department of a bank that handles individual customers.

The significance changes in the financial industry in India are clearly obvious from the financial market, the agency and changes in the product clearly clearly. Restrictions on regulatory mitigation have opened a new view on the bank for income, but dangerously led to a great deal. The entrance of credit flow and new products, especially the derived tools are significantly influenced by the domestic banking sector, and the bank adjusts the product of the product, and the rapid change of our process is a globalized

environment due to rapid changes in the rapid change and operation. These events have contributed to a higher choice to consumers who have been a more perceived and demanding beliefs to provide a wider range of products through various distribution channels. The traditional banks of banks after simple financial capital are modified and risk management has been defined as definition properties.

Retail banking generally refers to the provision of mass market banking services to individuals. In many cases, it has been extended over the years to include services provided to small and medium-sized enterprises (SMEs). Some banks may even include "private banking" (ie, services for high net worth) in their definition of retail banking.

2.RIVIEW OF LITERATURE:

A lot of research has been done in India and abroad on various aspects of banking, especially retail banking. Some useful studies related to this topic are reviewed here.

2.1 Birla Research Institute (1981): In his study, he compares the performance of public sector banks after nationalization. They believe that the performance of public sector banks is unsatisfactory in rural development activities compared to private sector banks.

2.2 Jayne, Pinson, and Malhotra (1987) found that customer loyalty is a very useful construct when studying customer loyalty as a banking marketing concept. They argue that the human side of banking should prioritize the loyal part of banking marketing. R. Jay Kumar (1993) compares the performance of public sector and private sector banks better than public sector banks in Kerala's study of private sector banks. "

2.3Delwyn James (1995) 4 Conducts research on UK retail banking using First Direct, a subsidiary of Midland Bank. He concluded that banks can increase their market share through proper communication and rapid product delivery.

2.4 Govindarajalu (1996) 5 in his article "Satisfaction and dissatisfaction with banking service" believes that Indian banks have lost the quality of customer service. Customer dissatisfaction with banking services is an important issue that banks and politicians should consider developing in the banking sector.

2.5 N. S. Varghese (2000) 9 is of the opinion that the next generation of private sector banks with the latest technology can implement e-banking services and are in great demand among investors in the stock market.

3. RESEARCH METHODOLOGY:**3.1 OBJECTIVES OF THE RESEARCH.**

- To analyze the growth of retail banking in India after liberalization.
- To analyze the development of computerization in retail banking sector.
- To analyze the entities dealing with retail banking that provides a wide range of personal banking services

3.2 DATA COLLECTION SOURCES.

SECONDARY DATA: - The secondary data is being obtained from all possible sources to gain a complete understanding of interaction design, behavior, and results. Much literature on secondary data will be learned from books, journals, case studies, universities, websites and educational publications, newspapers and studies on this construct, the data must be collected from internet websites. Latest trends and information in this field of study.

3.3 RESEARCH DESIGN.

This survey uses a descriptive type of survey method. In general, research is descriptive in nature and means naturally observing the characteristics of the subject of study without the intentional manipulation of variables or control of their settings.

3.4 DELIMITATION OF THE RESEARCH: The research is conducted from the data collected from various website and the information is till 15th Jan 2005.

3.5 LIMITATIONS OF THE RESEARCH: The research has physical and economical constraint.

3.6 DATA ANALYSIS METHODS: Data is collected from government sources to generalize the findings and draw conclusions of the research study.

4. FINDINGS AND ANALYSIS:

Growth of Indian Banking: Income growth

Year	All Banks	Public Sector	Private Bank	Foreign Bank
2010-11	27.7	24.9	45.3	30.4

2011-12	17.2	14.2	38.4	24.7
2012-13	12.6	10.5	28.1	14.6
2013-14	16.6	16.5	21.6	11.7
2014-15	14.8	15.3	44.4	6.3
2015-16	14.9	13.8	25.5	16.0
2016-17	14.4	13.3	0.0	8.2
2017-18	14.1	9.6	53.1	-7.1
2018-19	6.7	7.1	4.4	8.0
2019-20	3.5	28.8	-1.9	0.2
2020-21	16.8	15.6	34.3	33.7

4.1 Current State of Retail Finance:

- India is currently the 5th largest retail market in the world. The country is ranked 4th out of 30 countries surveyed in terms of global retail development. The market size was estimated at \$335 billion in 2010 (source: IBEF) and is expected to reach \$543 billion in 2014. Retail has played an important role globally in boosting productivity across a wide range of consumer goods and services. .
- In developed countries, organized retail trade accounts for nearly 80% of total retail trade. In contrast, organized retail accounts for only 5% of total retail in India.
Transaction. This highlights the huge growth potential of the Indian retail sector.
Traditionally, there have been changes to bank branches.
- Many banks are implementing a new branch model, reserving only a small amount of space for the self-service area and dedicating the rest to sales-related tasks. Some banks have opened dedicated retail outlets called Retail Bank Boutiques that cater to the needs of consumer's less than one roof.

- Market estimates predict that by 2015 the wealth of “rich developing countries” and wealthy countries will double to \$31 billion. It is now worth around \$14 billion and includes entrepreneurial wealth, as is the case with wells in India. The history of personal consumption expected to grow twice as fast. According to market estimates, it is currently Rs 45 crore and is expected to reach Rs 85 crore in 2015.
- Increasing willingness of Indians to enter the global market. Previously, it was just an NRI, but now this segment has grown into an important group. It is estimated at 13 million people.

5.CONCLUSION:

So when this project was created, I realized that retail banking had many branches and products to offer to its customers. The banking service provides customers with very convenient facilities such as ATM, line of credit, internet banking, etc. I didn't know about such a service so I wouldn't be confused about which service to ask the next time I go to the bank. There is a bank. .The bank is doing a great job. I also learned that by providing such a service, they take too much trouble and risk. You never know what will happen when you lend to someone. People can become corrupt banks and banks can lose money.

6.SUGGESTION :

6.1 Opportunities & New business initiatives:

Keeping these basics in mind, let us explore opportunities & new business initiatives to address various challenges & bottlenecks discussed above. Transaction Banking Products & Credit Products has been the highlight of Retail Banking in India and presently products & services available in India are as good or even better compared to Global Banks. Hence first opportunity is identified in improving the delivery and experience of Transaction Banking Products & Services and Credit Products, let's discuss various means by which we can bring in improvements and make Bank more relevant to customers.

6.2 Improving the Delivery &Experience:

Various surveys conducted on Customers, have pointed to the fact that Customer is interested to conduct his or her basic requirements at their convenience than testing various techno savvy and complex products. Hence in order to improve the delivery & experience, Banks are suggested to implement few initiatives as mentioned below:

1. Relationship Pricing & TAT for all products based on Relationship value: Even though few banks have grouped their customers, based on account level profitability and has been offering priority services to

better set of customers. But going forward Banks needs to come out with a transparent method of account level profitability and offer products and services at better price and at predefined TAT (Turn round time).As various surveys points out, Customer is more interested in being serviced fast and not essentially serviced lot. Customers should be classified in to Tier one, two, three etc and Best customers of

the bank should be able to access entire Products & Services of the Bank within ½ hours TAT. Such an initiative will add a purpose in customer with respect to deal with a single Bank where he can get the best Banding and thus products & services at best prices and within a predefined TAT unlike the present situation where everybody gets everything everywhere, impacting the logic of customer loyalty.

2. 24*7 Services, whereby Customer can avail any product & services of the Bank at any time: Banking cannot afford to remain within 9 am to 4 pm service any more, as competition provide services similar to Banks provide and customer doesn't have any incentive in buying Bank products compared to products offered by NBFCs and others, hence Banks needs to have technological platforms which will enable 24*7 services for all products and not just Transaction banking products or few other products.Banks can upgrade phone banking, Mobile banking, Internet banking products & services to include all kinds of Banking Products & Services to be available 24*7 and 365 days.24*7 Initiatives will give an advantage to Banks over nonbanking competition and unlike Banks nonbanking entities will always have restrictions in offering Banking products & services with respect to Products & Services as well as time, which will give an edge for Banks over these nonbanking competitions.

3. Solution Provider services to Complaint resolution services: As an extension to the above Initiatives, one major area of concern for customers is the Complaint resolution by Banks, many times customer doesn't get instant solutions due to one reason or the other. For example customer fails to complete ATM transactions but account shows debit and customer rings up Complaint cell numbers where answer is not immediate but we shall get back to you. For a customer it is a big nuisance and he has to wait for his complaint to be resolved and next time around customer doesn't take ATM granted as any time money. Similarly many complaints take its sweet time in getting resolved, testing patience and anxiety of customers. Hence Banks needs to take up another initiative of Solution provider services to Complaint management services. Whereby customer's problems are addressed with immediate solutions and not by lengthy process of existing complaint management. Loyalty programs for Customers based on their relationship years with the Bank: As discussed earlier many survey points out to low levels of loyalty compared to the satisfaction with respect to products & services. And we have identified the reason as

lack of differentiation in products & services offered by various banks in India. Now even though various banks have been offering various free bees to customers as part of Loyalty programs, none of it seems adding any loyalty factor for customers, there has been Monsoon offers where Banks have been offering Umbrellas, offering Movie Tickets, Foreign trips etc , which are free bees without adding any improvement to the goal of developing customer loyalty. Hence banks need to undertake loyalty programs, which will directly influence customer`s loyalty towards the bank. Branch less banking business model for taping large rural markets profitably: Since urban and Semi urban centers are well banked in India, the next stage of growth prospects lies in rural India but Banks are finding it difficult to operate in rural markets due to adverse cost to income ratio. Here Banks needs to introduce cost effective banking model than sticking to the traditional branch banking model. Because the business prospects in rural centers are low, it makes no sense anymore to serve these low-cost customers using the same high-value business model. For this, mobile banking services should be widely used, and withdrawals and payments from ATMs should be possible without issuing a prepaid card.

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Smoking Addiction

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ABSTRACT:

Cigarette smoking remains one of the most significant preventable causes of disease and premature death in the western world and is a leading cause of cancer and death from cancer.

Over the past decades, mounting evidence has shown that cigarette smoking is associated with several malignant and nonmalignant urological diseases. In this regard, urologists can have a lasting impact on public health and patient quality of life by promoting a healthy lifestyle and ending dependence on cigarette smoking and nicotine.

Keywords: Smoking, Health, Diseases.

INTRODUCTION :

Smoking, the act of inhaling and exhaling the fumes of burning plant material. A variety of plant materials are smoked, including marijuana and hashish, but the act is most commonly associated with tobacco as smoked in a cigarette, cigar, or pipe. Smoking is a global epidemic among young and teenage people. As it poses a serious health issue to both young and teenage. Most teenage smokers become adult smokers. One – half of young smokers die prematurely from smoking-related diseases. Despite hundreds and thousands of programs to reduce youth smoking and hundreds of thousands of social media stories on the effect of tobacco use, even after spreading such issues and effects, generation after generation continues to use these dangerous deadly products, and family after family continues to suffer the devastating consequences.

REVIEW OF LITERATURE:**☐ Andrew W. Bergen, Neil Caporaso :**

- ☐ Cigarette smoking, hereafter referred to as “smoking,” is the largest single risk factor for premature death in developed countries. Approximately one fifth of the deaths in the United States are attributable to smoking, and 28% of the smoking-attributable deaths involve lung cancer, 37% involve vascular disease, and 26% involve other respiratory diseases
- ☐ More than 400 000 deaths per year and 30% of all cancers in the United States are attributable to smoking.
- ☐ Lung cancer is the largest single cause of cancer-associated mortality and is the most common cause of smoking-related mortality in the United States

OBJECTIVE OF RESEARCH:

To prevent the use of tobacco among young Teen age and adults.

- ✓ To increase awareness and the intention to quit among smokers.
- ✓ To increase awareness about smoking problem in schools and colleges
- ✓ To reduce access to tobacco products to minors and teenagers
- ✓ To reduce access to tobacco products through illegal trade.
- ✓ To reduce the influence of the tobacco industry on young people and adults

LIMITATIONS:

- ✓ the person who smoke is not comfortable about talking smoking problem.
- ✓ Person who smoke mostly have anger issue so it is difficult to talk with him/her

DELIMITATION:

- ✓ we can easily get information about from which age group people, smoke the most from paan shop and chai tapri.

✓ we can easily see through our own eyes that which age group is particularly smoking more.

METHODOLOGY:

✓ This data is collected from South Mumbai, through paan wala, chai wala, and this is primary data

FINDINGS:

- ❑ According to the World Health Organization (WHO), India is home to 12% of the world's smokers. More than 1 million die each year due to tobacco in India. According to a 2002 WHO estimate, 25% of adult males in India smoke. Among adult females, the figure is much lower at between 13–15%.
- ❑ Smoking cigarettes increases the risk of many types of cancer, like lung cancer
- ❑ Smoking cigarettes during the teenage years may increase the risk of dying from the COPD
- ❑ Research shows that there is a direct link between cigarette smoking and coronary heart disease
- ❑ Smoking during pregnancy increases the risk for pregnancy complications

CONCLUSIONS:

- ❑ People who smoke are mostly not happy with their life, they smoke because they are not happy with their life; they are in either stress or in depression. Smoking harms nearly every organ of the body, causing many diseases and reducing the health of smokers in general. Quitting smoking has immediate as well as long-term benefits, reducing risks for diseases caused by smoking and improving health in general.

RECOMMENDATIONS:

- ❑ People who smoke should quit smoking because smoking is not only affecting them, the smoke of a cigarette also affects nearby people and also affects the nearby atmosphere by making it impure. Smoking adversely affects the health of the person, making him lose his will and strength and also affects the internal organs which can lead to serious disease in the future. That's why we should not smoke cigarettes and think about our family and what if we die because of a smoking problem; it will affect the whole family, think once before getting into such habits

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Study on Oil Spillage in Nigeria: Shell Operation

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ABSTRACT:

This paper talks about the oil spillage in Nigeria and problems faced by oil spillage in Niger Delta. And also, about the impacts on environmental and economic factors. This paper discusses about the oil spillage and its effect on the natural environment. Suggestions on strict rules and regulations are also discussed using secondary data in this research paper.

KEYWORDS: Oil Spillage, Shell Company, Nigeria, Environmental, Economical.

1. INTRODUCTION

One of the world's leading energy companies Shell plays a key role in helping to meet the world's growing energy demand in economically, environmentally, and socially responsible ways. Shell has a history of over 50 years in Nigeria and the largest footprint of all the international oil and gas companies operating in the country.

Shell has been active in Nigeria since 1937. Shell companies and investments have played a pioneering role in onshore, shallow and deep-water oil exploration and production. Shell has also

been at the forefront of gas development, producing and delivering gas to domestic consumers and export markets for over 40 years.

Business Activities in Nigeria:

- The Shell Petroleum Development Company of Nigeria Limited (SPDC) is the largest Shell company in Nigeria and produced the country's first commercial oil exports in 1958. SPDC is the operator of a joint venture (the SPDC JV) between the government-owned Nigerian National Petroleum Corporation – NNPC (55% share), SPDC (30%), Total E&P Nigeria Ltd (10%) and the ENI subsidiary Agip Oil Company Limited (5%). It is focused on onshore and shallow water oil and gas production in the Niger Delta.
- Shell Nigeria Exploration and Production Company (SNEPCO) operates the Bonga Field, Nigeria's first deep-water oil discovery.
- Shell Nigeria Gas (SNG) is the only international oil and gas company to set up a gas distribution company in Nigeria to supply Industry Customers.
- Nigeria LNG (NLNG) is a joint venture incorporation 1989 to produce LNG and natural gas liquids for export. It was Nigeria's first LNG project. Shell Holds a 25.6% share' together with NPC (49%), Total (15%) ad ENI (10.4%).

Shell in Nigeria by Numbers:

- The SPDC JV's assets include around 50 producing oil fields, a network of approximately 5,000 kilometers of oil and gas pipelines and flow lines, five gas plants and two major oil export terminals (Bonny and Forcados).
- Bonga was Nigeria's first oil and gas project in water depths over 1,000 meters. It increased Nigeria's oil capacity by 10% when it begin producing in 2005 and has production capacity of 200,000 barrels of oil per day and 150 million standard cubic fee of gas per day.
- The NLNG plant a Bonny Island has six processing units (trains) with total processing capacity of 22 million tones a year of LNG and up to 5 Million tones of natural gas liquids (LPG and Condensate). NLNG accounts for approximately 7% of the world's total LNG supply.

2. REVIEW OF LITERATURE

- **O. Isidiho, a. Burhan, N.A.S. Sarban, M.S. Adam Assim, M.I.S, & Talib, A.T. (2020); Assessing the Effects of Oil Spill on Clean-up Workers and Communities' Participation in Imo State Nigeria.**

In this research paper they have identified problems associated with oil spill clean up that has been burden to all oil spill stakeholders all over the world. In this research they also wrote about the responses for oil spillage clean-up operation event and common approach for oil spill clean-up and also it has two major perspectives of the communities that are participating in clean-up. They also wrote about the health impacts happening to people while oil spill clean-up and also observed few symptoms on clean-up participants like eye redness, headache, dry throat, watering eyes and many more.

- **Anieflok E. Ite, Thomas A. Harry, Clement O. Obadimu, Ekpedeme R. Asuaiko, Iniemen J. Inim; Petroleum Hydrocarbons Contamination of Surface Water and Groundwater in Niger Delta Region of Nigeria.**

In this research paper they have wrote about the problems affecting the groundwater due to oil spill and petroleum hydrocarbons contamination had acute and long term adverse effects on human health and the ecosystem over the fifty five years on groundwater petroleum hydrocarbons pollution has negatively impacted the environment. They also wrote about the human health implications of petroleum hydrocarbon contamination of controlled water sources as petroleum hydrocarbons can cause groundwater or drinking water dirty that can be a great cause on human life. They also wrote about the water quality problems in the Nigeria's Niger Delta Region as contamination of surface water and groundwater are surrounded by organic and inorganic chemicals and because of it the groundwater contamination is not available in the Niger Delta.

- **K.N. Aroh, I.U. Ubong, C.L. Eze, I.M. Harry, J.C. Umo- Otong and A.E. Gobo; Oil Spill Incidents and Pipeline Vandalization in Nigeria, Impact on public health and negation to attainment of Millennium development goal: the Ishiagu example.**

The paper reviews the potential danger to public health because of oil spill incident and pipeline vandalization in Nigeria from 1970 to 2006, causing degrading. Water quality, hazard to aquatic life and ultimately to humans who depends on them. This paper discuss about the oil spill incidents over the years, its laws and regulations and causes like machine failure, operational error, natural hazard, corrosion of pipeline, third party activity and sabotage. This paper concludes sabotage as a major cause and demands public awareness campaign for danger of pipeline vandalization and other employment, infrastructure and economic empowerment tools.

- **Ekpo, IE., Obot, OL and David, GS; Impact of oil spill on living aquatic resources of the Nigeria Delta region: A review**

In this research they have wrote about the discovery of oil in Nigeria in the 1950s, the country has been suffering the negative environmental consequences of oil development. The people of this region have lost their traditional means of livelihood (fishing and crop production) to oil spills. To make the region to be habitable in the nearest future, it is the utmost task of the government of Nigeria to keep and clean up the Niger Delta.

3. RESEARCH METHODOLOGY

A. PURPOSE OF THE RESEARCH: To know about the Economical and environmental impacts happening to people and surroundings.

- Economical impact of Oil Spillage: On Mangroves, Land-based vegetation, Sediments, Fish habitat, Human health, effects on Local Fisherman, seamen and Ship Workers. Shortage of oil and Cost of recollection kg oil.
- Environmental impact of Oil Spillage: Greenhouse Gases, Carbon Dioxide, Methane Emission, Nitrogenous Oxide Emission, Hydrofluorocarbon Emission, Flaring, Energy Intensity, Refinery, Chemical Plants, Acid Gases and VOC, Sulphur Oxides, Nitrogen Oxides, Volatile organic compound and Water Disposal.

B. OBJECTIVES OF RESARCH:

- To study about oil spillage in Nigeria.
- To study about what company is working with environmental accounting and reporting.
- To study about what oil spillage is affecting environment as well as economy.

C. SCOPE OF THE STUDY:

- Business activities in Nigeria.
- Shell in Nigeria By Numbers.
- Social and economic Contribution in Nigeria.
- The Ogoni issue; Ogoni leader Ken Sao- Wiwa; Clean-up efforts in Ogoiland.

- The Bodo oil spill; clean-up in Bodo.
- Oil spills data in number 2013 to 2020
- Impact of oil spill on economical and environmental factor.

D. METHODS OF DATA COLLECTION:

- Secondary data Collection technique has been used in the study from published materials on Internet (Websites, Case Studies) and explained.

E. AREA OF RESAERCH:

- Shell Corporation Nigeria.

F. DELIMITATION:

- This research has boundaries. This research is collected from 2013-2020.

G. LIMITATION:

- This study is limited to secondary data.
- This study is limited with time constraint.

4. FINDINGS AND ANALYSIS OF OIL SPILLAGE NIGERIA

- ❖ In 2013 there were total 177 times oil spills 21.045 thousand in volume out of which from sabotage was 155 (86.51% of total) times amounting to 18.335 thousand in volume and 22 times spill by operational amounting to 2.71 thousand in volume.
- ❖ In 2014 there were total 176 times oil spills 15.366 thousand in volume out of which from sabotage was 147(91.65% of total) times amounting to 14.082 thousand in volume and 29 times spill by operational amounting to 1.284thousand in volume.
- ❖ In 2015 there were total 131 times oil spills 17.93551 thousand in volume out of which from sabotage was 110 times amounting to 16.829 thousand in volume and 17 times spill by operational amounting to 0.83651 thousand in volume and 3 times their where mysterious spills.
- ❖ In 2016 there were total 73 times oil spills 30.36 thousand in volume out of which from sabotage was 61 times amounting to 28.48 thousand in volume and 11times spill by operational amounting to 1.88 thousand in volume.

- ❖ In 2017 there were total 82 times oil spills 10.8895 thousand in volume out of which from sabotage was 69 times amounting to 9.953 thousand in volume and 11 times spill by operational amounting to 0.9365 thousand in volume.
- ❖ In 2018 there were total 147 times oil spills 14.795 thousand in volume out of which from sabotage was 128 times amounting to 11.881 thousand in volume and 19 times spill by operational amounting to 2.914 thousand in volume.
- ❖ In 2019 there were total 190 times oil spills 14.724 thousand in volume out of which from sabotage was 183 times amounting to 14.52 thousand in volume and 7 times spill by operational amounting to 0.20401 thousand in volume.
- ❖ In 2020 there are total 16 spill till February which are caused by sabotage of volume 1.048 thousand.
- ❖ It can be seen that from 2013 number of spill decrease till 2016 and after 2017 it increases and in 2019 the number of spill where higher about 190 spill in total as recorded.
- ❖ In case of volume it was a roller coaster ride sometime up sometime down in 2016 where there were less number of spills but the volume of spill was the highest about 30.36 thousand in volume and in 2019 where there were high number of spill but the volume was relatively low.
- ❖ The highest number of spill where on year 2019 recording of 190 out of which 183 (98.61%) was from sabotage and 7 (1.39%) was from operational failure.
- ❖ The lowest number of spill was on year 2016 amounting to 73 times out of which 61(83.56%) was from sabotage 11 (6.19) from operational failure.
- ❖ The most oil spilled in volume was on year 2016 when their where less number of spill but in volume it was high amounting to 30.36 thousand in volume out of which 28.484 thousand was from sabotage that's 93.79% of total spill and 1.88 thousand from operational failure that's 6.19% of total.
- ❖ The least oil spill in volume was on year 2017 amounting to 10.88 thousand in volume out of which 91.4 % was from sabotage and 11 spills where from operational failure.
- ❖ Sabotage and theft are the main reason behind oil spill in Nigeria and shell is trying to overcome the issue of sabotage and theft of oil and the spills have caused many issue in the past and future.
- ❖ People feels that the sabotage and theft are just a front to hide the company operational failure and are protesting against it.
- ❖ 2020 data being incomplete is not analyse as it cannot be comparing with yearly data.

5. CONCLUSION

Organization environment are very dynamic consist of factor like political, technological, environmental or ecological, and socio- environmental factors deal with how organization react to change in environment like climate, limitation natural resources , global warming, waste disposal.

Organizations are the ones who have given a great impact on the environment, the most by directly or indirectly. Many industries like petrochemical, steel, oil, coal, and energy production harm the environment by depleting natural resources like oil, steel, and coal and water too. Which can result in a great crisis of such resources. On the other hand, such industries like petrochemical, manufacturing, packaging, plastic, textile, communication, logistics, information technologies, real estate, etc. harm the environment by emitting hazardous gases and disposing waste in the environment like plastic waste, harm to water bodies, more hazardous gases in the environment, etc.

Such environmental harm can result in climate change, depletion of natural resources, global warming, deforestation, harm to aquatic animals, harm to human health, also depletion of ice caps. In the south pole, a scientist has also said that if the Antarctic melts, then the world will be in contact with such viruses and diseases which can't be cured and many more. What should organizations do to control such harm? Without such control on such things, people on earth will get an apocalypse and no human will be left.

To act on such environmental problems, the United Nations started a program named the United Nations Environmental Programme (UNEP) in which they help organizations and countries tackle environmental problems. They also stated sustainable development goals for 2015-2030 for countries and organizations. The concept of environmental accounting and reporting was introduced to organizations. In this, organizations look up for developments in areas for reducing or nullifying harm to the environment and also being accountable for such harms in quantities and reporting such things in reports so that investors, people, government, and other users of organizations can look on such things and help contribute to changes. Such kind of accounting and reporting is also known as sustainable accounting and sustainable reporting. The Global Reporting Index (GRI) is an organization that also sets standards for reporting environmental and social performance of the company. This standard is known as GRI Standards. Also, there are financial products and services which help in financing through doing something good for the environment or as per your environmental performance. Such as green funds, green indices, climate insurance, and many more.

Shell, a company which is a top company in petrochemical, oil, and energy transmission, has faced a problem of oil spills, mostly in the Nigerian delta, and as working in such industries can be blamed for many environmental issues. UNEP and the Shell company have worked very hard in controlling oil spills and cleaning up oil spills and controlling such spills. Sustainable accounting and reporting helped Shell in recording their environmental performance and also working on improving their environmental performance year by year and can be seen in their sustainable reports. Thus, specifying the

importance of such measures of accounting and reporting. sustainable accounting and reporting lie great future ahead and development with more technological development

6. RECOMMENDATION

- ❖ Shell a company which works in field of petrochemical and energy transition has problem of oil spill specially in Nigeria by sabotage and some spills due to operational error. Total economical damage of 3.49 billion has been till 2019 the company had major spill in 2016 which are less in number but more in number.
- ❖ Oil spills also have negative impact on vegetation and locals' communities of that area. Shell claim they have admitted many Nigerian in the firm but oil spill effect local farmers and farmers. It has been seen that organization has somewhat control oil spills till 2019. With steps to control oil spills securing pipeline and aiming towards no operational failure. Securing oil pipeline leads to major cost impact on firm but it is necessary.
- ❖ It is recommended that the firm should use a technology like CCTV surveillance also a technology in which any spill can be located when attempted to theft in their pipeline and in case of spill it should also use quick response team to block the spill so that it have minimum impact on them and local of that area and they should also recruit fishermen and farmers in firm in replacement of the damages they faced as a security guard or a jack for information regarding spills. Cleanup of spills should be as quick as possible to minimize impact on environment and society.
- ❖ They should also launch as a mission to plant back vegetation and mangroves of the area that has been damaged to greening the delta again. They should also run a campaign in which they will plant tree 10 times the number of spill in a month. They should also invest in research and development of technology which helps them in security and new cleaning up methods of spills regardless of the temporary solution like flaring up oil it should focus on cleaning up oils and re activating nature once again in delta.
- ❖ As per environmental performance of the shell company they had control their emission and waste disposal in many of their environmental field but failed in hydrofluorocarbon (HFC) and hydrochlorofluorocarbon (HCFC) and energy intensity performance it is suggested that the organization should control actives of upstream, refinery and chemical plant to reduce energy intensity it can also use renewable energy source to cover their needs and HFC and HCFC can be control by use of means of re-fermenting compressor activities and by employing more on research and development of new technology to reduce such emission and disposal

7. WEBLIOGRAPHY

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- <https://www.charteredbanker.com/uploads/assets/uploaded/6e89f43e-6a3b-41c7-a2a65d41deeee960.pdf>
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STUDY ON COMPARISON OF PERFORMANCE OF MICROFINANCE INSTITUTIONS WITH COMMERCIAL BANKS IN INDIA

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ABSTRACT:

In this study we have analysed those variations with inside the Debt equity ratio of micro finance institutions India. It is a monetary device designed to sell economic inclusion which allow the low earnings families to pop out of poverty and to boom their earnings levels. Microcredit is added through loads of institutional channels scheduled industrial banks together with small Finance bank lending both directly as well as correspondents and SHG.

KEYWORDS:

Microfinance institutions, MIX, Financial structure, Efficiency

INTRODUCTION:

MICROFINANCE:

Microfinance or Microcredit way presenting small loans (microcredit) to very bad households to assist them interact in effective sports or nurture their tiny businesses. Over time, microfinance has come to encompass a broader variety of monetary offerings i.e.

- Deposits
- Loans
- Payment offerings
- Money transfers
- Insurance

As we've got come to recognize that the bad and the very bad, who lack get entry to standard formal monetary institutions, require quite a few monetary products.

- Microfinance loans have surprisingly brief compensation periods.
- Small mortgage quantities and very little collateral required.

REVIEW OF LITERATURE:

In microfinance literature studies have been conducted to find out the nature of relationship between social and financial performance and remain debatable.

Montgomery and Weiss (2011) suggest that Microfinance Institutes are undertaking and achieving both financial and social missions. social performance helps to develop mutual trust and increase customer awareness that reduces the operating cost.

Assefa (2013) suggest that competition has negative relationship which leads to conservative lending activities. Also, they argue that competition has a positive significant effect on loan repayment which leads to lower repayment rate and brings more loans at risks. I also conclude that competition negatively correlate with Microfinance Institutes financial performance.

Guha and Chowdhury (2014) argued that borrowing from multiple sources threatens the real impact of Microfinance Institutes in the society it also claimed that double dipping situations Microfinance Institutes are targeting poor people not crowding out.

Gonzalez-Vega (2003) suggest that competition reduces operating cost and price of loan and innovation among Microfinance Institutes.

Kar and Bali swain (2018) Microfinance Institutes located in competitive environment have greater incentives to increase interest rate to obtain sufficient resources to spend on increasing their market share

Roberts (2013) found that market competition should force Microfinance Institutes to become efficient and decrease their interest rate furthermore he found that for profit institutions tend to have higher interest rate for their borrower than non- profit institutions.

Mosch (2013) observed that working charges are maximum critical variable in figuring out hobby fee. He additionally observed the proof that Interest Rate for Women debtors is better than male one's and that regulated Microfinance Institutes has a tendency to price decrease hobby charges than unregulated one.

It may be concluded that opposition in microfinance has each nice and terrible results on Microfinance Instituted social and monetary performance.

RESEARCH METHODOLOGY:**OBJECTIVES OF RESEARCH:**

- To study and compare the financial performance of Indian microfinance institutions and commercial banks in India.
- To analyses prosperity and Efficiency of MFIs in India.

METHOD OF DATA COLLECTION:

The methodology of study includes assortment of secondary knowledge from varied analysis articles and journals. The secondary data collected is any analyzed mistreatment applied math tools to draw conclusions supported the results obtained.

RESEARCH DESIGN:

The research design is descriptive in nature.

DELIMITATION OF RESEARCH:

The data has been collected only for 15 MFIs based on the rating given by MIX.

LIMITATION OF RESEARCH:

The Microfinance Institutes in India do not report data to MIX due to the accounting practices they follow.

DATA ANALYSIS:

The data is collected from Microfinance Information Exchange (MIX) to generalize Findings and draw conclusions of the research study.

FINDINGS AND ANALYSIS:

Debt equity ratio:

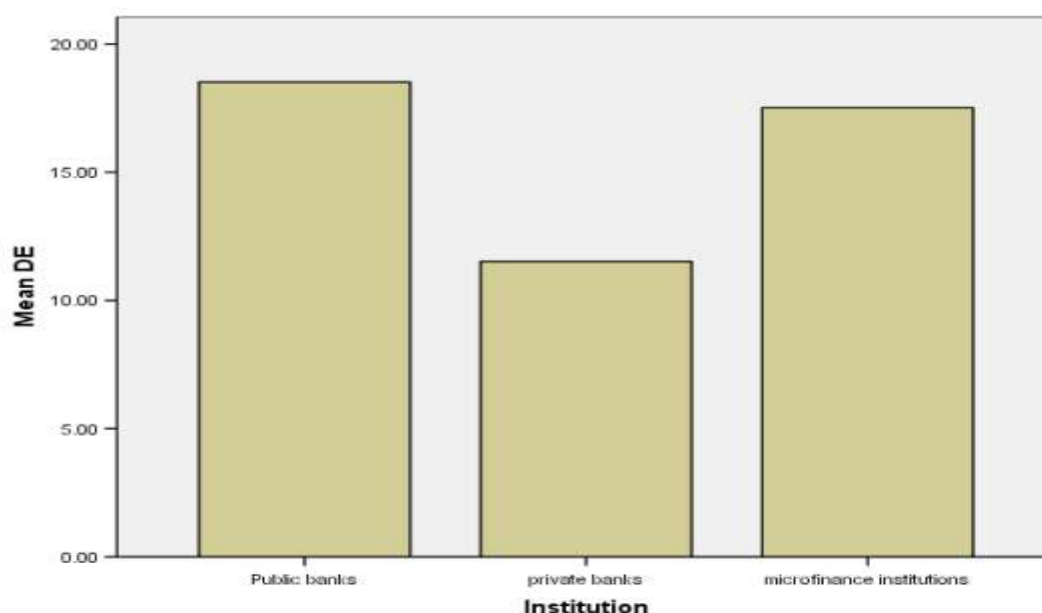
The debt equity ratio is a measure of the company's financial leverage. The ratio is calculated by dividing the company's long-term liabilities by its shareholder's equity. The higher the debt ratio, it implies a risky investment because the higher the debt, the higher the interest to be paid by the Company.

ANOVA

	Sum of Squares	Df	Mean Square	F	Sig

Between Groups	509.128	2	254.564	.652	.524
Within Groups	23019.519	59	390.161		
Total	23528.647	61			

ANOVA output of debt equity ratio:



Comparison of debt equity ratio for Banks VS MFIs:

The output shows that there is no significant difference between the means at 5% level of significance. Therefore, there is no fundamental distinction between the debt equity ratios of public and private banks and microfinance institutions, so the null hypothesis is accepted. From the graph it is seen that the microfinance institutions have higher debt equity ratios as a result of several of them are growth oriented. Socially oriented microfinance institutions rely on grants and donations and don't have a lot of access to capital. therefore, with most of the microfinance institutions been growth oriented, faucet the capital markets for raising adequate capital and have liberal access to industrial debt funds. Hence this results in a better debt equity ratio for the MFIs. the general public banks even have a better debt equity ratio as a result of being government banks they need simple accessibility to credit from the financial organization in addition as they get fund from the capital markets whereas the personal sector banks are needed to be rated so as to achieve access to funds from the capital

markets. Hence, they have a lower debt to equity ratio when put next to public sector banks and also the microfinance institutions.

CONCLUSION:

Despite it is small size our sample of Indian microfinance institutions covers a large no of borrowers, provides comparable data and it is quite revealing. Our results suggest that the challenge of covering costs on small and partly unsecured loans can indeed be met without necessarily increasing the size of loans or raising monetary cost thus Microfinance Institutes ensures sustainability through financial performances and operating parameters of the Microfinance Institutes in our sample make it possible to suggest ways to increase the ability of Microfinance Institutes to cover cost. Our estimate suggests that rising the interest rate can be done without harming profitability, despite some risk of increasing defaults. The Microfinance Institutes must make choices between their long run sustainability and educational objectives of securing the possible highest rate of repayment. charging too low interest seems to actually backfire. On the cost side Indian Microfinance Institutes still face high financing cost relative to Microfinance Institutes in other parts of world or even neighboring. If small loans are indeed an indicator that they are reaching the poor, our data suggest that their small size can be sustained. A large range around 4500 rupees per borrower must be sustainable. Increasing the number of borrowers per field officer seems to be most promising way to reduce cost especially in group-based delivery models. This would not hurt repayment despite a likely lightening of the monitoring. Thus, our results confirm the microfinance intuition with the observation that small loans can be originated at an affordable cost for this type of borrower, especially when selection and follow-up can be largely delegated to group mechanisms and when a large number of loans of a sufficiently standardized type can be made by a given structure can be delivered. The microfinance movement is thus striving to match the convenience and flexibility of informal sector. But many early ideas did not work as expected and the Indian economy has changed a great deal in past twenty years opening space for new approaches.

SUGGESTIONS:

Microfinance institutions face many challenges related to their performance and sustainability. Microfinance institutions are considered an important tool for poverty reduction and financial inclusion. It is an important sector that would improve the living conditions of the poor and contribute to the country's development. Problems faced by microfinance institutions include high interest rates, multiple loans, forced collection methods, lack of transparency, etc.

- Mobile banking would also be a valuable cost-cutting tool. Technology is an important tool in building an operating system for borrower identification and data communication.

- Microfinance institutions must ensure that credit is given for useful purposes that would enable the household to earn a living, and not for unnecessary purposes.
- Sufficient microfinance institutions should be allowed to accept deposits from the public. It would improve microfinance institutions' profit margins and lower interest rates.
- Most microloans are given to micro-business start-ups and the loan would have to be repaid from the cash flows generated by the business. Therefore, microfinance institutions must allow borrowers sufficient time for repayment.
- Low-income borrowers are often uneducated and microfinance institutions need to educate borrowers. Educating borrowers is important for microfinance institutions to increase their reach.

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TRANSITION OF TELEVISION BROADCASTING SUBSCRIBERS TO OTT PLATFORMS

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ABSTRACT:

This study examines how OTT TV substitute traditional TV. By categorizing satisfaction into seven dimensions, this study adopts niche theory to look at the aspects of gratification toward OTT TV's complementarity of or replacement of cable TV. Following an online survey conducted during March 2016, 620 qualified responses were collected. The results show that the giant western OTT platforms overshadow the local OTT players. In terms of niche breadth, our findings present that OTT TV scores higher than traditional TV for all seven dimensions, with the greatest difference manifested on the dimension of convenience. For the niche overlap, our findings show that OTT and traditional TV share a high level of similarity on amusement and ease of use. Overall, OTT TV's competitive superiority surpasses that of traditional TV in all dimensions. Implications for research and practices are discussed herein.

KEYWORDS: Television Broadcasting, OTT, Internet, Smart devices, Channels, binge watch millennials, video on demand

INTRODUCTION:

COVID truly acted as the power booster for **OTT** phase. Due to Lockdowns, people stayed at home. Many of employees allowed to work from their homes from different organizations. Even the big screens were closed as it leads to huge gatherings. Lockdown was imposed in India and after that all the states independently imposed lockdowns to reduce down the cases in their particular states. Because of this all these changes people become habitual to the new platforms of entertainment and subscription rates of **OTT** platforms risen up. Growing content availability on OTTs and lack of any other entertainment sources were the primary reasons for increased OTT screen time. 87 per cent of the people found that screen time went up due to COVID. A Television network or broadcaster is a telecommunication network for

distribution of television program content, where in a central operation provides programming to many cable providers.

REVIEW OF LITERATURE:

Yi-Ning Katherine Chen:

The worldwide improvement of OTT TV, The Federal Communications Commission of the U.S. characterizes an OTT as a web-based deliverer of video content by means of the Internet. Cover and Li offered a higher perspective with regards to the flourishing of web based real time features, computerized video seeing traces all the way back to the 1970s when Sony Corporation made a decent attempt to advance its fleeting item, Betamax VCR. In any case, the ensuing rise of computerized video recording (DVR) around 1999 steadily acquired a spot in the U.S. market and promoted the pattern of advanced video watching. The advancement from computerized seeing into internet seeing arose because of the forward leap of PC innovations. Later during the 2000s, probably the most famous video real time and downloading administrations came out like Quick Time, RealPlayer, iTunes of Apple, and so forth In the long run, the Internet became significant combat zone for full gushing of TV and online programs, close to how YouTube and Netflix operate. People not just have their TV projects and films streamed on the web, yet additionally have delivered all around planned and modern projects on web-based stages. Simultaneously, enrollment has been coordinated into the working of web-based streaming platforms, giving just individuals to get to the internet content. During this stage, web-based streaming stages were an autonomous medium with their own crowd and redid contents. The rise of cell phones, for example, cell phones, tablets, and ultra-books has tested the limit between new media and traditional TV. This mechanical unrest has urged the crowd to pick one medium over another, as well as the connections among media types. This mechanical headway improved on the video seeing interaction by making it simpler for clients to pause, resume and download what they were watching, and this element permitted them to multitask. Comparing cell phones with PCs.PCs are not so versatile as cell phones, since they are heavier, greater, and have a more modest battery and we have seen a spike of millions of people utilizing cell phones at present. Moreover, while PCs tablets actually request outside help, for example, Ethernet or Wifi to associate with the Internet, cell phones can without much of a stretch interface with it through any open 3G or 4G organization.

Sant Sing, Amity University:

New Delhi: Pooja umesh is a 22-year-old Bangalore-based engineer. She discontinued watching TV because she did not prefer to watch TV shows which are telecast on a particular

period of time. Online streaming of videos provides her flexibility of watching movies, TV shows of her interest at any point of time as per her convenience. "Internet gives me a lot of options," she says, adding "if I download from Torrent, I can watch shows and films instantly". She watches Indian shows and films on Amazon. For international shows, she prefers Netflix and Hot star to watch regional language. (Bansal, 2018) Mumbai: Shubham Agarwal a 25-year-old freelance musician, much like Pooja he doesn't care about watching TV shows either. He is not a regular subscriber to Netflix and Amazon prime, but he is fond of standup comedy so he watches popular comedy shows like stranger things, mind hunter. He buys subscription of Netflix and Amazon prime whenever a new season of the series mentioned above is available. (bansal, 2018) Binge watching addiction

In 2013 Netflix stated that binge watching refers to normal behavior among humans where an individual sit at one place and watches several episodes of the same show in a day. This kind of

behavior produces dopamine into the brain which makes us feel so good about it over time. It also happens in other kinds of addictions like gambling, smoking, getting high on drugs etc. Since 2013

the rate of binge watching has increased from 61% to 75% according to latest deloitte figures. It is observed that millennial's exhibit stronger binge-watching behaviors as compared to other generations. The psychology of majority millennial's behind binge watching is that they want to keep the storyline ongoing. (Mosacho, 2018) It is estimated that more than 3-5 hours is considered as the average time to binge watch. Majority of millennials consider binge watching a harmless pleasure rather than a harmful addiction. The act of binge watching builds a community around the show known as "shared cultural space" This helps viewers to establish beneficial social connections. This beneficial social connection strengthens relationships as people share mutual interest and they can spend easy time together. Binge watching makes a show more fulfilling as watching several episodes

RESEARCH METHODOLOGY:

PURPOSE OF THE RESEARCH:

The purpose of this research is to find out why people shifted from watching television broadcasting packages to ott subscription packages.

OBJECTIVE:

- To know the reason for shifting from television bro to OTT platform.
- To know the future of OTT platform in India.
- To understand the infrastructure development supporting OTT.

METHODS OD DATA COLLECTION:

Primary Data is collected through questionnaire. Secondary data is collected from newspapers, publications and internet.

RESEARCH DESIGN:

The research design deployed was descriptive research design as it includes fact finding enquiries of different kinds. This is based on fundamental research as well as we conducted this research to find out the reasons behind the people moving to ott platforms.

LIMITATIONS AND DELIMITATIONS:

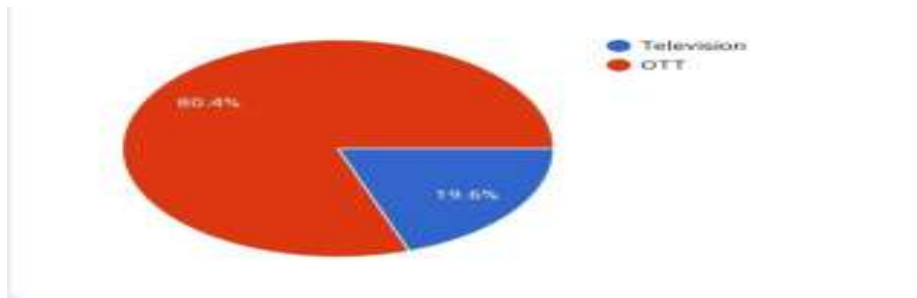
- This study is limited to secondary data.
- This study is limited with time constraint.
- This research has boundaries of studies.
- To operate these platforms on TV, one has to upgrade their TV into a smart TV.
- OTT platform needs High resolution video data.
- Content is an important factor to attract users towards their platforms

DATA ANALYSIS METHODS:

Data is collected from primary as well as secondary sources to generalize the findings and draw conclusions of the research study.

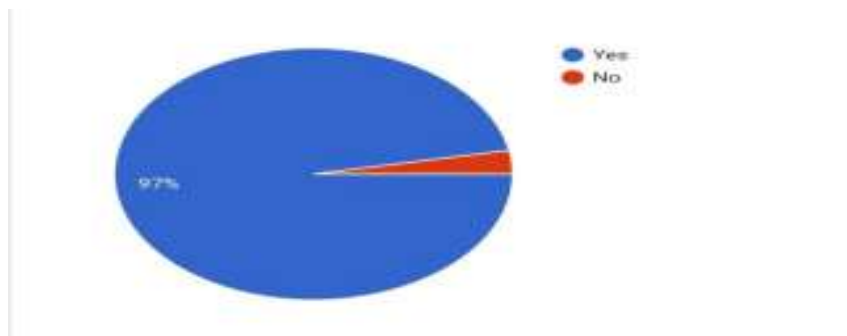
FINDINGS AND ANALYSIS:

Preferences:



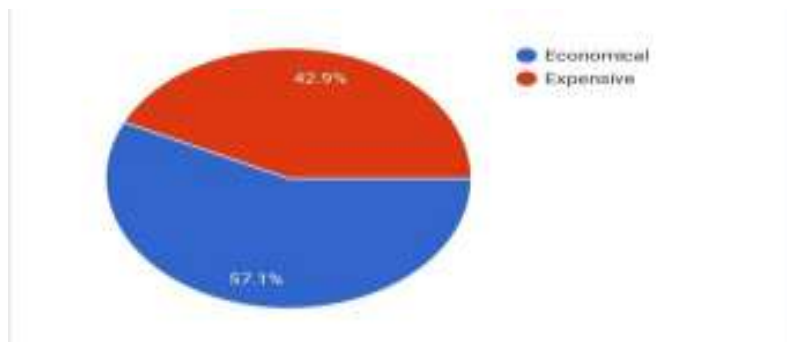
Well firstly talking about preference of people who watch ott content, we got 81.5% of people who find it convenient to pay to these platforms rather than to 'pay television providers'.

Internet Connectivity:



Well for watching ott platforms the most primary thing you need is an internet connection and when we asked people about it. Only small amount of people does not have an internet connection which is about 3% of people.

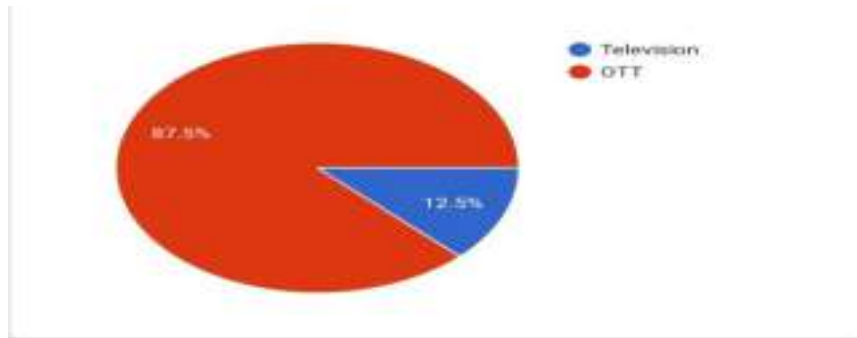
Economical or expensive:



Talking about how economical people find these ott platforms, we got a huge number of 59.3% of people while 40.7% of people find it quite expensive. We interview one of the people directly named Rajesh was using Hathaway dish for which he was giving 400 Rs during covid. After covid the Hathaway provider raised its package from 400 to 420 Rs. He calculated the yearly package of Hathaway which was going till 5040 Rs. Rajesh thought of resorting to online hatchway service but still the prices of channels which he wanted to watch got added with gst tax and the total amount was reaching the sky, so he thought of resorting

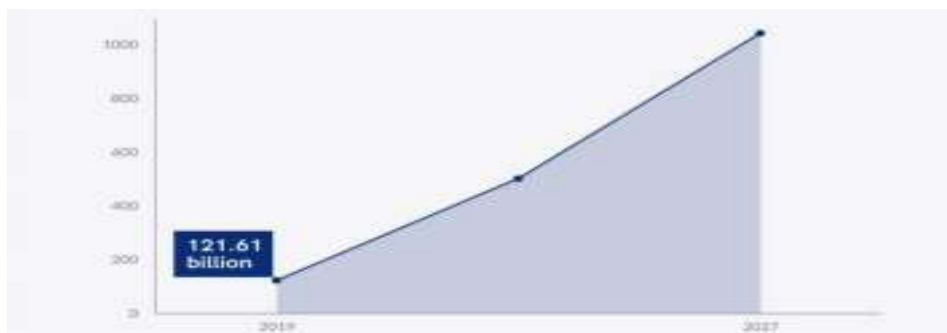
to ott platform. He calculated the yearly subscription of 3 ott platforms where he will be going to watch his favorite content anytime and anywhere and the amount which he found was half than what he used to pay to hatchway dish provider

Amazing Content:



Due to self-isolation people were getting much more time to sit in front of idiotic box with an intent to watch power thrilling content throughout the day. As millennials restless and want to finish the series in one go which has a specific word 'binge watch' This is only possible on ott platforms as it does not have any time restrictions in it. Through a survey we found out that 88.9% of people find amazing content on ott platforms.

Future prediction



This graph is about future Of OTT in India. OTT platforms have revolutionized the viewing habits of modern consumers.

CONCLUSION:

It's more likely that the OTT platforms will expand. Internet access is growing on a daily basis, and it is reaching out to rural places with the support of digital India and broadband projects. The simplicity of gathering information and, more importantly, trust in the phone signal is the foundation of OTT will expand further. It is a matter of convenience, and quality is improving as more young people use OTT platforms. The majority of its customers are

Indian millennials, and ott demand is comparable to that of the United Kingdom.

SUGGESTION:

We think ott has been favorable to people who are a movie buff and want to watch original content with economical fees getting charged. Almost everyone around us has a smartphone or smart Tv and is familiar with OTT platform all you need is a good internet connection. It has been saving the time of people as well as it is simultaneous video stream so you don't have to limit yourself to one task therefore you can multitask.

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Impact of work from home on Indian Teacher's performance during Covid-19 pandemic.

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1. INTRODUCTION;

Due to the outbreak of Covid-19 in February 2020, Indian Universities were shut down and various digital platforms were used to teach their students since then. Today one can see from school students to college students, everyone has adapted the digital platforms as their daily schools, learnings in their daily life. But this not only affected the student's life but also changed the teaching practices. It is acknowledged across the globe that time management for teachers is more important than any other professionals because they are masters of the fate of future generations. Stress is a big factor that affects the time management process. The best way to address this kind of distracter is to ensure that one should do his tasks effectively and efficiently and always try to lessen the hurries of work. For avoiding stress, turning the stuff down and staying committed to the work are the best ways of time saving because in this way individuals can complete their allotted work in time.

2. RATIONALE;

For the first time in the history of the Indian education system, there has been a shift from a face to-face teaching model to a completely online one. Teachers across the section of the society variably or invariably have had to quickly get used to the online mode of teaching guided towards a digital mindset. Their community is also deeply affected. For instance, an online effective delivery mechanism, adequate support provided by faculty and teaching assistants to students, ahigh qualityity participation for better student learning can be followed for better learning experiences.

3. GAP ANALYSIS:

Purwanto, Asbari, Fahlevi, Mufid, Agistiawati, Cahyono, & Suryani (2020), stated the impact of work from home (WFH) on Indonesian teacher's performance during the Covid-19 pandemic. And to overcome this, the government through the Work From Home (WFH) policy had expected to make it easier for the community to continue working even amidst a virus pandemic that requires them to remain at home. Khan, Farooqi, Khalil, & Faisal, (2016) stated the enhanced relationship of Time Management with Teachers' Performance. Arora, A. K., & Srinivasan, R. (2020) stated that network issues, lack of training, and lack of awareness were to be the major challenges faced by them. Lack of awareness was stated to be the most important reason by those who did not adopt virtual classrooms followed by lack of interest and doubts regarding the usefulness of virtual classes. Less attendance, lack of personal touch, and lack of interaction due to connectivity issues were found to be the significant drawbacks of virtual classes. Bakker, & Bal, (2010) stated how intra-individual variability in teachers' experiences at work can explain weekly job performance. Andriani, Kesumawati, & Kristiawan, (2018) stated that the motivation work is to have a positive effect on teacher performance which means that there is a positive and significant influence between the motivation work with the teacher performance. Crain, Schonert-Reichl, & Roeser, (2017) stated that Teaching is known to be a stressful human service occupation. Some have theorized that teachers' job stress is due primarily to the inherently social-emotional demands of working with up to 30 or more children or adolescents. Others have pointed to the uncertain, attention-intensive nature of teaching during which teachers must flexibly and creatively make hundreds of decisions "on the fly" each day as a key source of teacher job stress. Teachers themselves report that workload, lack of collaborative time with colleagues, lack of support from administrators, and encounters with challenging and difficult student behavior in the classroom are among some of the most stressful aspects of their jobs.

4. OBJECTIVES:

- To study the challenges faced by faculties while working from home.
- To understand how work-from-home affects the performance of the teaching fraternity.
- To know the advantages of working from home for teaching fraternity.

5. RESEARCH METHODOLOGY:

▪ Primary Data

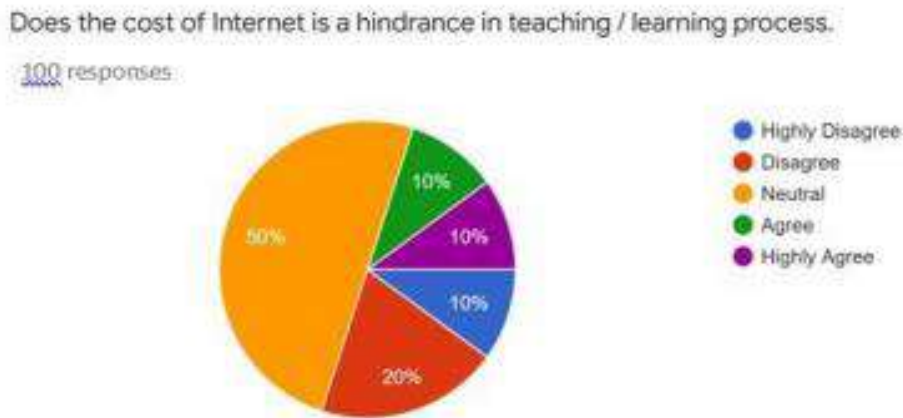
The data is collected in the pandemic period of COVID-19 during the total lockdown in India. This is the best time to collect the data related to the current research topic because all the colleges and schools across India were involved in online classes. Mainly the teaching faculty took part to fill the survey, different age groups, and various, i.e., from school to college teachers is the part.

▪ Secondary Data

The secondary data is also collected through various thesis, journals, articles. As the introduction and gap analysis is referred from google. So, the data is of both primary and secondary research. It makes the work easier and more informative in various ways. ▪ **Size:** 100 teachers

6. ANALYSIS AND INTERPRETATION:

Chart 1



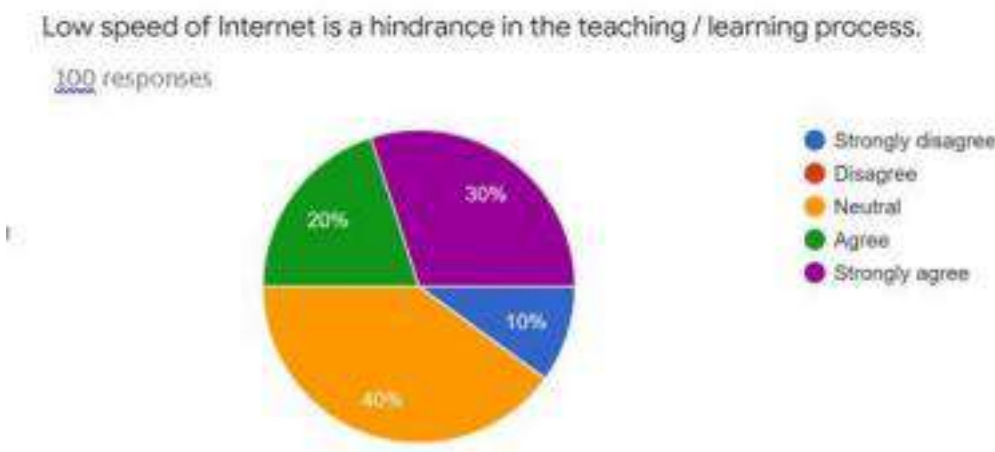
Interpretation

1. Among 100 respondents, 50 % claim to neither fully agree nor fully disagree, so the cost of the internet may or may not be a hindrance in the teaching process while teaching Online. 2. 20% claim to agree on this as a problem where the cost of the internet also plays a role in this situation.

Even in the profession, it may not be affordable to buy an advanced version to teach everywhere. And there is also the possibility that students cannot afford them which makes them unreachable from all teaching processes.

3. 30% claim to disagree with this problem as they can afford it and don't seem it be the problem by any side. As of now, everyone is in work from home stage, cost of the internet seems to not be the problem here.

Chart 2



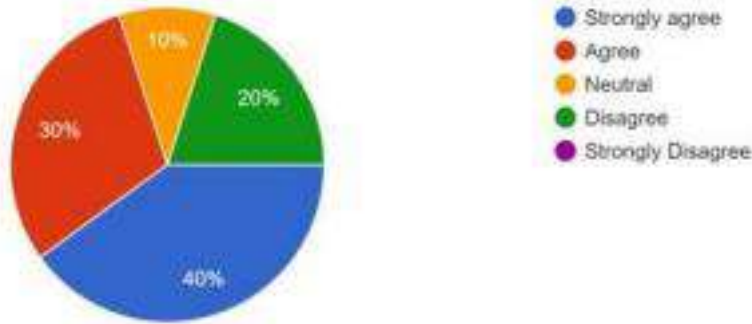
Interpretation

1. Among 100 respondents, 50% claim to strongly agree that the low speed of the internet seems to be the problem/ hindrance during the teaching process. It is either teachers/assistant professors face this issue or it is faced by students if they are unreachable or outings or even they stay where its more likely to have a network problem.
2. 10% seem to claim that this is not the problem/hindrance that they face while teaching.
3. 40% claim that it is may or may not be the problem, as it's equal to all and they don't seem to have any problem with the hindrance.

Chart 3

Does online teaching saves time and provides an opportunity for self study?

100 responses



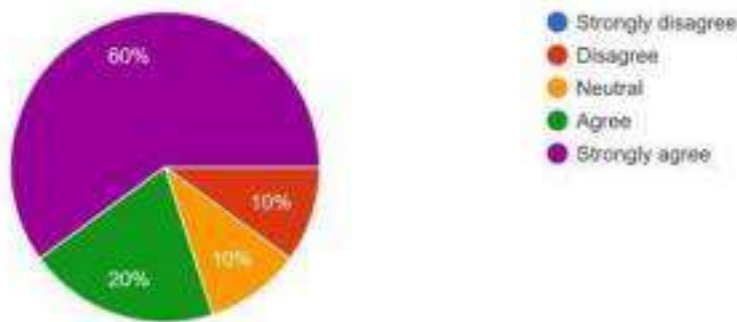
Interpretation

1. Among 100 responses, 70% agreed that online teaching save time and accessible, and also helps/promote the self-study
2. In which 10% are may or may not confirm whether it’s really good to have online teaching for this purpose.
3. 20% disagree with the idea of saving time while teaching online and it does not create any opportunity as it is unaware that can be misused.

Chart 4

Spending Longtime in online learning makes the students loss their motivation to participate.

100 responses



Interpretation

1. Among 100 respondents, 80% agrees that spending a long time online either it is learning or browsing makes them sleepy and lose their interest and motivation to participate actively in

teaching or attracting students in lecture.

2. 10% are not sure that if spending long time whether if it's learning only that makes them lose their motivation and no other reasons.

3. 10% disagree that this does not create any difference while they don't attend any lectures. Chart 5

Rate your working environment in your surrounding.

100 responses

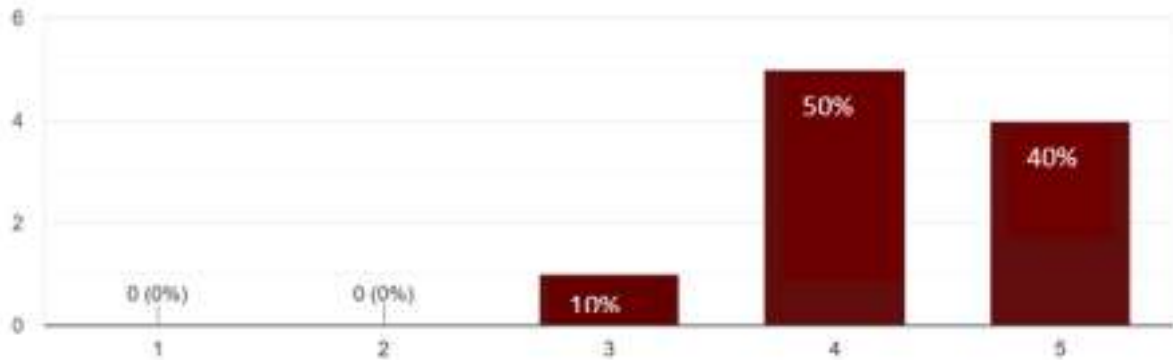


Chart 6

Are you satisfied with the support of your HR department?

100 responses



Interpretation

1. This question was asked if the HR department of the respective organization supports them when they needed. As teaching is the only thing that remained traditional till now and in this pandemic, it took a blow of online teaching and learning.

2. So among 100 respondents, 60% of them do agree with the condition as they feel like changes are happening and to improve their performance accordingly they are motivated and trained well on

the same.

3. But 40% of them neither agrees nor disagrees with the given conditions as this may not happen in other educational organizations.

Chart 7



Interpretation

1. This condition was asked to know the new experience and steps taken towards technology. As teaching changed their technique but not their technology. And since it was the only thing that needed the traditional way.
2. Now as per the data, 50% are equally satisfied and dissatisfied with the online teaching as it differs in their performance and it does not motivate them but in some way, they are trying to learn more things and bring their teaching more using technology.
3. 40% of them are satisfied too in online teaching while they are slowly learning new things and getting to know more on the online teaching concept by saving much of their traveling time and are exposed to the technology.
4. 10% are dissatisfied with online teaching as it not only affects their teaching performance but also they are unable to cope with the speed and handling them.

Chart 8

In the above video, you are also one of the change-maker mentioned like others who are working in a pandemic, are you feeling motivated?

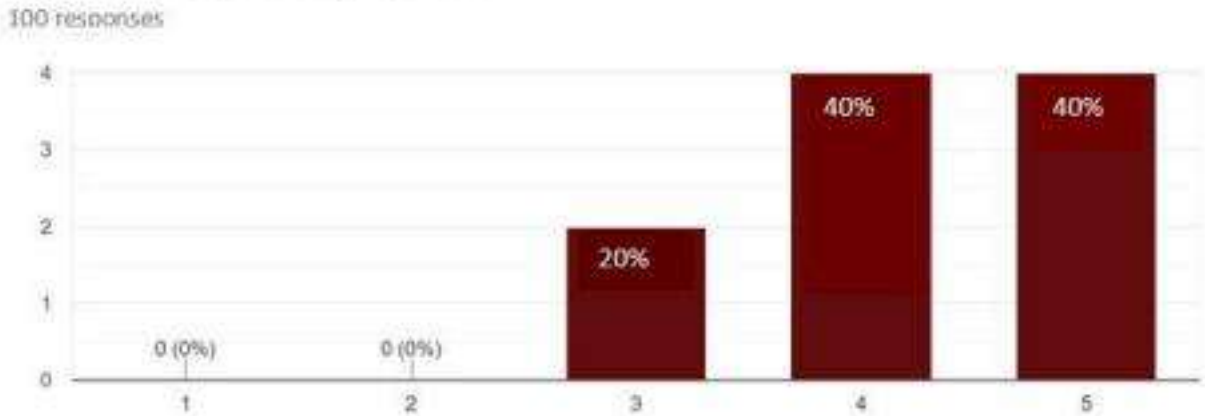
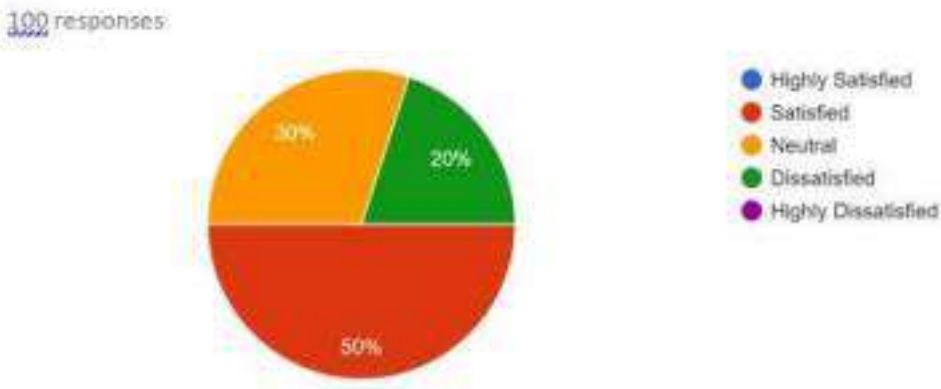


Chart 9

Are teachers getting benefits of performance management?



Interpretation

1. As per the respondents, 30% of them are both satisfied and dissatisfied with the performance management action taken by the education organization as it seems no change/progress in their aims.
2. And 50% of them are satisfied with them, according to them they are getting benefitted by the performance management of their organization.
3. 20% of them are dissatisfied because they don't seem to be getting the benefits of performance management.

Chart 10

Did this video help you to change the way of your thinking for your contribution to teaching?

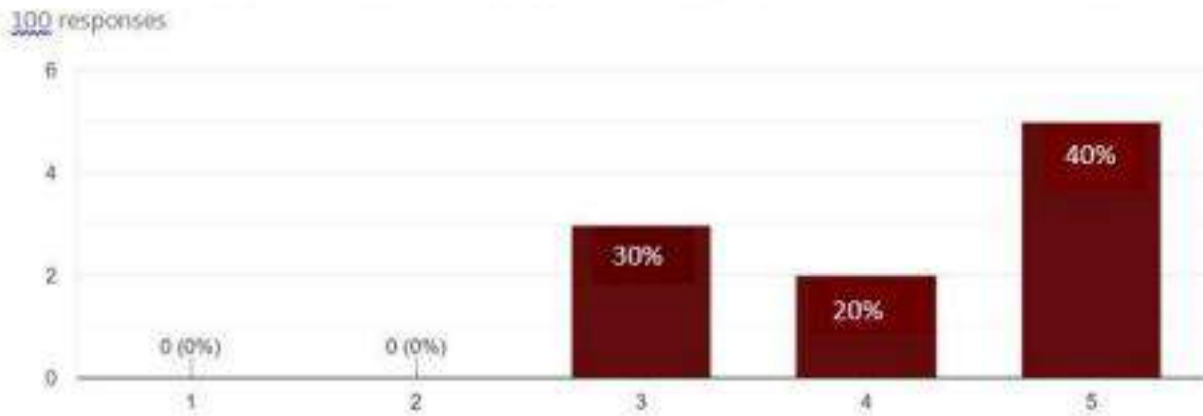
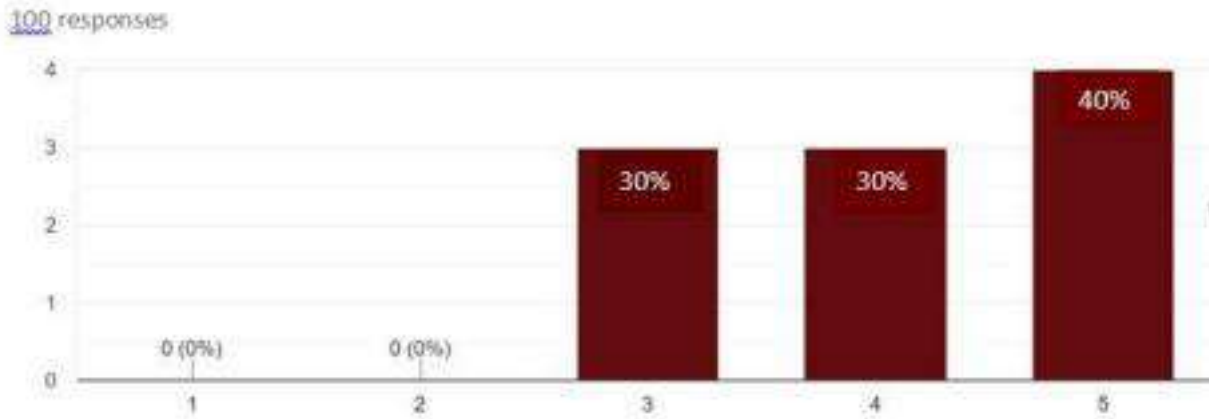


Chart 11

Do you also believe that you are also one of the change- maker as described in the video?



7.

CONCLUSION:

Teachers need to adapt their practices and be creative to keep students engaged as every household has become a classroom - more often than not- without an environment that supports learning. In pandemics, teachers are trained to record and upload documents and hold virtual classes effectively. Not all teachers will approach technology in the same way. They will need to be supported with diverse strategies. As every system settle, technology should be integrated into teaching-learning processes as well as routine needs, such as HR systems. The post-COVID-19 phase will offer many opportunities to “build back better”, that is strengthen quality and equity in school systems.

8. BENEFITS TO THE SOCIETY:

1. Technology has also enhanced government-teacher support, adapting existing coaching programs to be delivered remotely.
2. Technology interventions enhanced teacher engagement with students, through improved access to content, data, and network.

9. FUTURE SCOPE:

We can research how technology has an impact on the teaching fraternity in India. Future studies can also be done on comparative analysis of Work from home, and its impact among male and female teachers. Teachers in other cities of India can also be used for future research.

10. LIMITATIONS:

Geographically, it was limited to Mumbai city. Studies can be conducted in various districts, private and government schools, or colleges in rural as well as urban areas. Due to COVID -19, employees of all the sectors are introduced to the concept of working from home for the first time, hence, a comparative study of opinions and challenges of employees towards work from home of the different sectors can be studied. This paper estimates the opinions and challenges of teachers working from home. This study focuses on a certain group of employees and that will be teachers as the above research is on them.

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The impact of proactive personality, work engagement and work from home on subjective wellbeing of employees: Examining the mediating role of thriving at work

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Keywords: proactive personality, work engagement, job demand-resource model (JD-R), thriving, subjective wellbeing, work from home.

1. Purpose of the study

Information Technology (IT) sector in India plays an important role in enhancing the country's economy. IT and its various subsectors account for eight percent of the nation's GDP (Jaganmohan, 2020). According to the Ministry of Electronics & IT, (2017) jobs in IT will increase to 2.5 - 3 million by 2025. Thus, employment prospects for the Indian IT sector are projected to be largely optimistic and promising for the future. Mathew, (2007) in an Indian study cited that IT industries involve a process, wherein employees abilities play a vital role in determining the extent of productivity. The IT field is chosen as the context for the study because it is claimed that people constitute a core determinant of output in knowledge-intensive work contexts. This research rationalizes the relationship between proactive personality, work engagement, work from home on subjective well - being when mediated by thriving.

Objectives

To understand how proactive personality, work engagement and work from home interact with subjective well - being when mediated by thriving.

2. Brief Literature Review

2.1 Proactive personality and thriving at work

Proactive personality (PP) is defined as the “relatively stable tendency to effect environmental changes” (Bateman and Crant, 1993). They explained PP as a construct that acknowledges differences among individuals and the degree to which they take steps to impact their environments. According to the author's Parker, Bindl, & Strauss,(2010), proactive personality means predicting and minimizing the difficulties, grabbing the opportunity to make things happen. It is a self-initiated action to bring change in the workplace. Moreover, proactive employees tend to take more initiative (Crant, 1995). Furthermore, according to Spreitzer, Sutcliffe, Dutton, Sonenshein, and Grant (2005), thriving at work occurs when the employee undergoes and have both a sense of vitality and a sense of learning. They further stated that agentic behaviours are very important for thriving at work. Thus, if employees engage in these agentic behaviours, then proactive employees tend to thrive at work. Prior research indicates that proactive personality and thriving at work are positively linked (Porath et al., 2012; Niessen, Sonnentag, & Sach, 2012). Further, other studies have shown a positive relationship between proactivity and thriving at work (Jiang, 2017; Mushtaq, Abid, Sarwar, & Ahmed, 2017). Therefore, we assumed the proposition as:

Proposition 1: Proactive personality has a positive association with thriving at work.

2.2 Work engagement and thriving at work

The term work engagement (WE) was first coined by Kahn (1990), who referred to it as the positive mindset of the employees towards their workplace. WE is defined as a state of mind positively linked to work and characterized by vigour, dedication and absorption (Schaufeli *et al.*, 2002). Sharma, & Nambudiri, (2020) explained that work–engaged employees exhibit a higher degree of innovativeness resulting in better productivity and faster growth. Moreover, Schaufeli *et al.*, (2006) determined that WE connects employees mentally and emotionally with their job to deal with the demands of work. This results in employee providing innovative solutions to organizational challenges where they go the extra mile to be creative and achieve business goals (Bakker & Demerouti, 2008). The research on work engagement has accelerated in recent years. An integrated model of work engagement is proposed by (Albrecht et al, 2015) using a theoretical framework that considers how organizational

context, job context, and individual psychological and motivational aspects impact engagement. Thus, this research assumes the second proposition as:

Proposition 2: Work engagement has a positive association with thriving at work

2.3 Work from home and thriving at work.

Today, working from home (WHF) is becoming more common (Aczel, Kovacs, van der Lippe, & Szaszi, 2021). In the last four decades, WHF has been defined in multiple ways, such as remote work, flexi-time work, e – working etc. These terms describe employees working in flexible settings, especially at home, and using technology to do their work (Gajendran and Harrison 2007). Grant et al, (2019) described the phenomena of work from home as agile working and remote e – workers. According to authors, Lim & Teo, (2000), teleworking depends on various factors such as marital status, job security, organisational commitment. The outcomes of work from home were explored by (Nakrošienė, Bučiūnienė, & Goštautaitė, 2019) and identified that WFH improved time planning skills, increased autonomy, higher satisfaction and positive health. The concept of work from home having an relationship with thriving at work is not studied much. Thus, we propose that:

Proposition 3: Work from home has a positive relationship with thriving at work

2.4 Thriving at work and subjective well - being

Spreitzer, Sutcliffe, Dutton, Sonenshein, and Grant (2005) defined thriving at work as a state where employee encounters both vitality (i.e when an employee feels energized) and learning (i.e when the employee acquires new knowledge). Vitality leads to energy and liveliness (Ryan & Frederick, 1997). Spreitzer, Porath, & Gibson, (2012), identified that employees who are energized to grow and learn are less exposed to stress and burnout which in turn improves their overall health. Spreitzer et al (2005), proposes that thriving is an important concept as it has a positive impact on health and employee development. In the last few decades, the concept of subjective well-being i.e happiness and satisfaction are explored (Diener, Oishi, & Tay, 2018)). Recent research (Diener, Pressman, Hunter, & Delgado-Gil, 2017), on subjective well-being includes a study of the association with health and longevity. Thus, in this research, we assume that the employees who experience learning and vitality will have better health.

Proposition 4: Thriving at work is positively related to subjective well - being

Proposition 4a: *Learning is positively related to subjective well - being*

Proposition 4b: *Vitality is positively related to subjective well - being*

JDR Model

Demerouti., Bakker, Nachreiner, & Schaufeli, W. B. (2001) stated that the JD- R model is a framework that may be used in a variety of work environments. Every job has its own set of work attributes and JD- R model classifies these attributes as job demands and job resources. Tims et al. (2012), the researchers classified the jobs into two categories job demands and job resources. Their model focuses on behavioral components and helps the employee to balance their job demand and job resources with their individual ability and belief. The JD-R model was introduced as an alternative to the model of employee well-being. The main purpose of using JD-R model is to improve employee well-being Using this model we would be able to clarify, and make predictions about employee well-being.

2.5a Thriving mediates the relationship between proactive personality and subjective well - being

Jiang, (2017), examined the association between proactive personality and thriving at work, where the study showed that employees with proactive personalities strive to thrive at work. Alikaj, Ning, & Wu, (2020) have explored the relationship between proactive personality and thriving at work and established that proactive personality led an employee to thrive at work. Walumbwa, et al, (2018), have reported that thriving at work has a positive impact on individual well-being. Yi-Feng Chen et al. (2021), researched to study the impact of proactive personality on overall well - being for frontline health care professionals and concluded that employees who were able to constantly learn new things adapt to new roles and responsibilities because of their initiatives were able to maintain an adequate level of well-being. There is very limited research where thriving mediates the relationship between proactive personality and subjective well - being. Thus, building on the existing literature we propose that:

Proposition 5a: *Thriving at work will mediate the relationship between proactive personality and subjective well - being*

2.5b Thriving mediates the relationship between work engagement and subjective well - being

Kleine, Rudolph, & Zacher, (2019), found a strong association between work engagement and thriving at work. Work engagement and thriving at work were studied and it found that there is a positive and significant relationship between both of them. (Van der Walt, 2018). Porath, Spreitzer, Gibson, & Garnett, (2012), explained that employees thriving at work are have lesser burnout and are comparatively healthy, happy and active. Basinska, & Rozkwitalska, (2020) have studied how thriving at work leads to the employee development, which is mainly due to learning and which in turn increases the happiness of the employee. There is more much to be learned about how work engagement leads to subjective well - being with the mediating effect of thriving at work. Thus, we propose that:

Proposition 5b: Thriving at work will mediate the relationship between work engagement and subjective well - being.

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TECHNOLOGY ACCEPTANCE MODEL IN E-WALLET AMONG GENERATIONS

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ABSTRACT:

The purpose of this study was to investigate the demand of application of e-wallet by examining the needs of adoption of small amount paying method and the reasons. This study was developed in a way that the model constructs in Technology Acceptance Model were adapted to the context of using e-wallets. In the current study we tried to explore relationship among perceived risk towards trust, perceived usefulness towards trust and the impact of trust towards intention to use. We found that perceived risk has a significant impact on trust, perceived usefulness has a positive and significant impact on trust and trust has a positive significant impact on intention to use.

KEYWORDS: TAM Model, E-Wallets, Risk, Intention, Generation Y.

INTRODUCTION:

Now-a-days people are indulged into internet-banking and are used to carry out their day-to-day transactions via e-wallets. But in this digital era, usage of e-wallets has led to various scams & frauds. There's lack of personal touch or trustworthiness while carrying out all the financial transaction digitally. Customers are still under a threat that using e-wallets is not a safer option for them. Ill-literacy among the customers has developed a lack of awareness for the data security & privacy. As, all the digital payments are contactless, there's an absence of third-party support which leads to scams, frauds or hanging up of the payments. There's no support given to the customers for using e-wallets. Due to the unawareness of e-wallets, small shopkeepers are stuck to the traditional way of taking cash rather than shifting their payments to a digital mode.

Generation Y:

(Webster, n.d.) defines millennial as "a person born in the 1980s or 1990s." (Rauch, 2018) senior fellow at the Brookings Institution, wrote for The Economist in 2018 that "generations are squishy concepts", but the 1981 to 1996 birth cohort is a "widely accepted" definition for millennials. (Strauss & Howe, 1984-2009) are known for creating the Strauss & Howe generation theory, are widely credited with naming the millennials. They coined the term "Millennials" in the year 1987. Generation Y is also known as Millennials, Echo Boomers, Gen Me, Gen We. It consists of the birth year 1980 to 1994 whose current age is from 25 to

39. The global population of Generation Y is 1.72 billion.

TECHNOLOGY ACCEPTANCE MODEL:

Technology Acceptance Model was firstly coined by (Davis) in 1986. This model can be used when considering rolling out a new piece of technology to the whole business, after an initial trial. TAM states that the success of the new technology adoption is based on positive attitude towards two measures:

Perceived usefulness (PU) – This was defined by Fred Davis as "the degree to which a person believes that using a particular system would enhance their job performance ". It means whether or not someone perceives that technology to be useful for what they want to do.

Perceived ease-of-use (PEOU) – Davis defined this as "the degree to which a person believes that using a particular system would be free from effort" Davis. If the technology is easy to use, then the barriers are conquered. If it's not easy to use and the interface is complicated, no one has a positive attitude towards it.

E-WALLETS:

(The Economic Times) is a type of electronic card which is used for transactions made online through a computer or a smartphone. Earlier in India, people were only using cash majority of the times but now the scenario is completely different, people have started using e-wallet platforms for numerous transactions this change has taken place due to demonetization. Due to more transparency in the transactions helped country's economy to grow. (Shilpa & Angadi, 2020)

LITERATURE REVIEW:

(Ming*a & Jais, 2022) this section states the Technology Acceptance model, founded by (Davis) in the year 1989. TAM model assumes that the acceptance of the new technologies is due to the perceived usefulness and perceived ease of use for the customer. TAM model has been widely accepted from many years, although it has also received many criticisms for its perceived characteristics of being very simple.

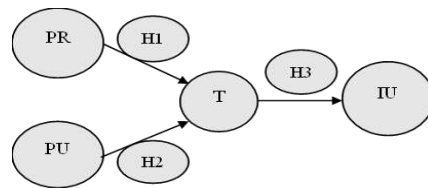
The perceived usefulness (PU) can be also stated as the degree to which the customers believes that a specific technology can enhance their performance- by (Davis). Basically, consumers feel that by adopting such a system can help to enhance their financial goals and standard of living, while it also helps them in carryingout their day-to-day transactions smoothly. Additionally, it has been demonstrated that perceived usefulness (PU) has a positive effect on the attitude of the customers toward usage of e-wallets, followed by the intention of using them (Datta, 2018). Previous research revealedthat only a handful of users would only use an e-wallet when they could see its necessity. For

instance, the viewpoint of usefulness also attracted the Generation Y of India and Indonesia toadopt e-wallets (Tai, 2016). Undoubtedly, the existing e-wallet provides variety of facilities like paying their bills, ordering food on just a single click of their mobile phone. E-wallets withmore significant benefits may also encourage consumers to use them more frequently (Lwoga,2017). In this study, e-wallet adoption refers to a user's attitude, behaviour, or intention to utilize an e-wallet. The Technology Acceptance Model (TAM) by (Davis) was proposed in thisstudy to acquire a better understanding of consumers' intentions to adopt a given technology. TAM consists of two primary components: perceived utility and perceived ease-of-use, whichare used to assess consumer attitudes toward technology tailored to them. TAM is a useful paradigm that has been widely used to describe how users react to the introduction of sophisticated technologies. Security Assumption The term "perceived security" refers to a person's belief that a method is safe. It has been proved to have a direct impact on the intentionto use a technology. Security considerations are a major role in e-wallet adoption for digital cash transactions.

The COVID-19 pandemic has changed the lifestyle of many people and this has led to increasein the usage of e-wallets. The theory of perceived risk also states that perceived risk could be defined in two major ways,

- (i) the probability of loss and
- (ii) the subjective feeling of unfavorable consequences (Mitchell, 1992)

Perceived risk (PR) refers to the perception toward the adverse impacts or consequences resulting from the specific service used (Featherman & Pavlou, 2003). Some previous researches also tested different dimensions of PR toward technological products. For instance,(Kim, Ferrin, L, & R., 2008) revealed that PR has a major impact on the users' decisions in online shopping. (Lee, 2009) also revealed that a greater PR appears to decrease users' interestin internet banking's adoption.

Theoretical Framework:

PR - Perceived Risk; PU - Perceived Usefulness; T -Trust; IU - Intention to use

OBJECTIVES:

- 1 To find out impact of perceived risk on intention to use among e-wallet users
- 2 To find out impact of perceived usefulness on intension to use e among e-wallet users.
- 3 To find out impact of trust on intension to use among e-wallet users.

HYPOTHESIS:

1. There is no significant impact of perceived risk on intention to use e-wallet among generation Y users.
2. There is no significant impact of perceived usefulness on intension to use e-wallet among generation Y users.
3. There is no significant impact of trust on intension to use e-wallet among generation Y users.

RESEARCH METHODOLOGY:

The current research is analytical and exploratory in nature. The impact of one variable on other variable is tested in the current research. The TAM model is tested in e-wallet users among generation Y. Convenience sampling method is used to choose respondents. 139 respondents from generation Y is interviewed using structured questionnaire. Perceived Usefulness, Perceived Risks, Trust and Intention to Use is measured using 5 pointer validated Likert scale. Primary Data collected through questionnaire method secondary data is collected through open sources like google scholars.

SCOPE:

The target audience was Mumbai-based millennials who use e-wallets. A structured questionnaire was distributed to collect primary data from generation y. The sample size was 139 and the respondents was selected using convenience sampling methods.

DATA ANALYSIS:

Table No.1 explain the result of One-Sample Kolmogorov-Smirnov Test which is a test to check the normal distribution. The significance value is less than 0.05 and hence we reject the null hypothesis. The data is

found not normally distributed and hence non-parametric test will be used for further analysis. Table No.2 explains the results of Spearman's rho correlation. There is 0.270 correlation is found between perceived usefulness and perceived risk. There is

0.525 correlation is found between perceived usefulness and trust and 0.684 correlations is found between perceived useful and intention to use. The significance value is less than 0.05 which state that there is significance positive correlation among perceived usefulness, perceived risk, trust and intention to use. Table No 3, 4 and 5 explains the results of regression

analysis. The table explain the impact of perceived usefulness and perceived risk on trust. Table no 3 shows the value of R^2 . The value of R^2 of trust is 0.726 which shows that perceived usefulness and perceived risk is most important variable to determine trust among generation y using e-wallets. Table no 4 shows that there is significant impact of perceived usefulness and perceived risk on trust. Table no 6, 7 and 8 shows the impact of trust on intention to use. The result of regression analysis shows that there is significant impact of trust on intention to use.

FINDINGS:

The goal of this research was to analysis the intension of the customers to use e-wallet, in this era of rapid technological upgradation using Technological Acceptance Model (TAM) as the base. We have collected the data from generation 'Y' that is from 20 to 40 age group. From the data collected we could conclude that people were skeptical regarding the usage of e-wallets as there is no security concern or support given to the customers and they were finding it risky to use e-wallet. Matters of security has high influence on the usage of e-wallets as people are scared of banking frauds and scams. Many people still have reservations about using digital payments. Some people are still hesitant to use it because they distrust the Internet and its perceived security threats. For many people, the idea that someone else has access to their bank account is a deal breaker. Majority of people think that using e-wallet is a easier task for them but when it comes to their financial safety, they feel a threat to lose their savings. People don't trust e-wallets due to a lack of exposure and comprehension of how the online world operates, people in this group may have limited experience with it. It's a significant step to take with your hard-earned money into the unknown, especially if you don't have somebody to explain it to you. We also found that people have a neutral trust towards the usage of e-wallets. Because security is a big concern, the majority of respondents are concerned about the e-wallet provider sharing sensitive information with other organizations, the abuse of information if the phone is stolen, and an increase in the frequency of cyber-crimes and virus infections. If the difficulties are addressed, there is a strong willingness to use the services. The respondents' preferences are influenced by criteria such as security, necessity, time, and services

used.

Implication: Our findings can be used by upcoming e-wallet firms to obtain client feedback on the issues they are experiencing. It will also assist them in determining the perceived danger, perceived usefulness, and their intention to use.

Future scope of the research: The proposed model can be validated using structural equation modelling in the future with adding few more variables.

SUGGESTIONS:

The security of the customer's personal data should be ensured by the e-wallet. E-wallet devices should be simple enough to be used by people who are illiterate. E-wallet devices should be able to function without the use of the internet. More cash backs and rewards should be given.

CONCLUSION:

The trust level of the E-wallet user depends upon the perceived risk and perceived usefulness. A significant impact of perceived risk on trust is explored. In the current research, we found positive significant impact of perceived risk on trust, perceived usefulness on trust and trust on intention to use.

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ANNEXURES:

Table No. 1					
One-Sample Kolmogorov-Smirnov Test					
		Perceived Useful	C_Perceived_Risk	C-Trust	C-Intention_Use
N		139	139	139	139
Normal Parameters ^{a,b}	Mean	23.61	8.98	14.22	14.36
	Std. Deviation	4.869	2.733	3.354	3.349

Most Extreme Differences	Absolute	.126	.107	.141	.155
	Positive	.095	.094	.140	.125
	Negative	-.126	-.107	-.141	-.155
Kolmogorov-Smirnov Z		1.482	1.267	1.659	1.833
Asymp. Sig. (2-tailed)		.025	.081	.008	.002
a. Test distribution is Normal.					

Table No. 2

Correlations

		C_Perceived_Useful	C_Perceived_Risk	C-Trust	C-Intention_Use
C_Perceived_Useful	Correlation Coefficient	1.000	.270**	.525**	.684**
	Sig. (2-tailed)	.	.001	.000	.000
	N	139	139	139	139
C_Perceived_Risk	Correlation Coefficient	.270**	1.000	.503**	.384**
	Sig. (2-tailed)	.001	.	.000	.000
	N	139	139	139	139
C-Trust	Correlation Coefficient	.525**	.503**	1.000	.720**
	Sig. (2-tailed)	.000	.000	.	.000
	N	139	139	139	139
C-Intention_Use	Correlation Coefficient	.684**	.384**	.720**	1.000
	Sig. (2-tailed)	.000	.000	.000	.

	N	139	139	139	139
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** . Correlation is significant at the 0.01 level (2-tailed).

Table No. 3

Model Summary^b

Model	R	R Square	Adjusted RSquare	Std. Error of theEstimate	Durbin-Watson
1	.726 ^a	.527	.520	2.323	1.643

a. Predictors: (Constant), C_Perceived_Risk, C_Perceived_Useful

b. Dependent Variable: C-Trust

Table No. 4

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	818.232	2	409.116	75.818	.000 ^b
	Residual	733.855	136	5.396		
	Total	1552.086	138			

a. Dependent Variable: C-Trust

b. Predictors: (Constant), C_Perceived_Risk, C_Perceived_Useful

Table No. 5

Coefficients ^a									
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error				Beta	Zero-order	Partial
1	(Constant)	2.222	1.034		2.149	.033			
	C_Perceived_Useful	.299	.043	.434	6.881	.000	.592	.508	.406
	C_Perceived_Risk	.551	.077	.449	7.128	.000	.602	.522	.420

a. Dependent Variable: C-Trust

Table No. 6

Model Summary ^b						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	
1	.812 ^a	.660	.657	1.961	2.227	

a. Predictors: (Constant), C-Trust

b. Dependent Variable: C-Intention Use

Table No. 7

ANOVA ^a	
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Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1021.013	1	1021.013	265.424	.000 ^b
	Residual	527.001	137	3.847		
	Total	1548.014	138			
a. Dependent Variable: C-Intention Use						
b. Predictors: (Constant), C-Trust						

Table No. 8

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
		B	Std. Error	Beta			Zero-order	Partial	Part
1	(Constant)	2.824	.727		3.882	.000			
	C-Trust	.811	.050	.812	16.292	.000	.812	.812	.812
a. Dependent Variable: C-Intention Use									

Consumer Buying Behaviour Analysis Using Machine Learning Algorithm

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ABSTRACT

User-generated content, such as reviews, ratings, and comments, can be examined for enterprise use to gain more insights. The examination of this type of customer behaviour is useful in determining the customer's needs and predicting their future intentions toward the service. E-commerce companies can use this cognitive study to track the usage and attitudes associated with their items and develop appropriate marketing strategies to deliver a personalised shopping experience for their customers, thereby boosting their profit. The goal of this study is to use data-driven marketing tools like data visualisation, natural language processing, and machine learning models to better understand an organization's demographics. We also use collaborative filtering, neural networks, and sentiment analysis to create recommender systems.

Keywords: *Consumer Behaviour, Machine Learning, Online shopping, Data Mining, SentimentAnalysis.*

1. INTRODUCTION

In this modern technological age, the utilisation of E-commerce has increased. People prefer shopping online over shopping in stores. In e-commerce, data created by customers in the form of product ratings and reviews can be used to verify the product's validity and publicise it. These ratings and reviews help consumers decide whether or not to buy a particular product. Such content could include good or negative feedback from customers who have used the product before. E-commerce companies can benefit from an accurate analysis of this user-generated information to get insights and better understand their customers' intentions and needs. summarized during a model, which can then be applied to a special data set in which the category assignments are unknown. Machine Learning Algorithms can help us in creating realistic visual representations of this type of consumer behaviour. Such visual representations would aid in a more in-depth analysis of the dataset in order to comprehend and draw firm conclusions about overall consumer behaviour on the e-commerce platform. Natural Language Processing (NLP), a subfield of machine learning, is used to evaluate text and detect favourable or negative customer evaluations. Sentiment Analysis is another name for this. As a result, the data provided in the form of evaluations has the potential to influence consumer behaviour, such as their purchasing intentions. Real-time recommendations based on this intuitive analysis may be produced to create a tailored shopping experience, encouraging them to buy more and so increasing the overall profit of these businesses. The goal of this research is to look into characteristics that aid in perfectly alright organisational directions using large amounts of user-generated content.

2. OBJECTIVE

1. To understand consumer buying behavior in online shopping.

2. To improve the efficiency and analyzing the consumer behavior using Machine Learning algorithm.

3.LITERATURE REVIEW

Xiaohua Hu et. al., (2005) had proposed a data mining approach for retailing bank customer attrition analysis. In this paper, he presented a data mining approach for analysing retailing bank customer attrition.

Mahendra Pratap et. al., (2012) developed a mining of the customer behavior using web usage in e-commerce. The main purpose of this paper is to study the customer's behavior using the Web mining techniques and its application in e-commerce to mine customer behavior

Masud Karim et. al., (2013) had developed algorithms like decision tree and naive bayes for classification and generation of actionable knowledge for direct marketing. The goal of this work is to predict whether a client will subscribe a term deposit UCI data is used to train and test the performance of the algorithms.

Neeraj Sharma et. al., (2013) had proposed data mining as a tool to predict the churn behavior among Indian bank customers. The customer churn is a common measure of lost customers. By minimizing customer churn a company can maximize its profits. Companies have recognized that existing customers are most valuable assets.

R. Roselin et. al., (2014) developed customer behavior analysis for credit card proposers based on data mining techniques. This study investigates the shift of consumers towards the use of plastic money, with emphasis on credit cards.

Maheshwari. K et. al., (2017) had developed predicting customer behavior in online shopping using SVM classifier. In this paper, the dataset is used to analyze and categorize the customer based on their purchase behavior. The classification is performed by SVM algorithm. The inventory data set and sales data set which is available in the internet is used in this work and the performance is evaluated by using the algorithms.

4. METHODOLOGY

A. Sentiment Analysis System Architecture

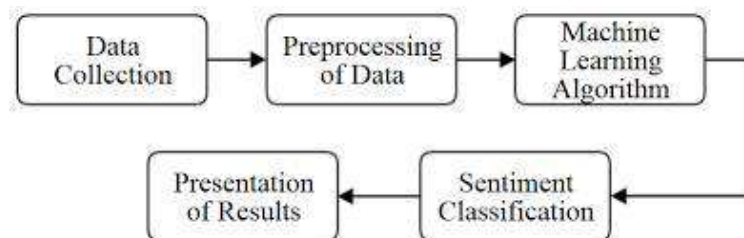


Fig. 1. The workflow of the proposed system

The user-generated content of the customer is pre-processed, the model is trained, and the results are shown on the dashboard. The above model seeks to include two things: sentiment analysis for

determining consumers' intentions and the creation of a recommendation engine based on their previous purchasing behaviour.

B. Data Pre-processing

The dataset contains Amazon product reviews which was taken from Kaggle.com. It is organised by categories such as clothes, home & kitchen, mobiles, and more. For the purposes of our research, we have chosen to work on a certain genre, namely Home & Kitchen products. Unique amazon ID, (rating, reviewer ID, summary, review, and review time are among the dataset's features. To gain a better understanding of the data, it was combined with metadata from various Amazon items, which includes information such as the product's title, description, image URL, sales rank, category, price, brand, and related products. Data was cleaned of any abnormalities and missing or duplicate values were deleted.

C. Data Visualization

All of the variables selected contribute to a better knowledge of customer behaviour through the use of various visualisation approaches. Data visualisation is used to help people understand a dataset in a more intuitive way. Statistical graphs and pie charts can provide a wealth of information. E-commerce companies might utilise these information to verify the popularity of a specific product or track customer behaviour. Some of the data visualizations performed are as shown below :

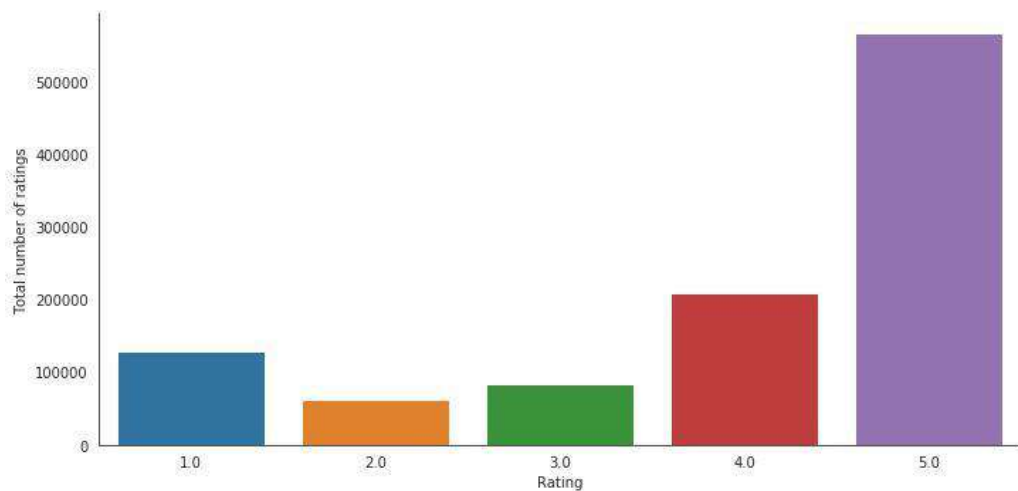


Fig. 2. Rating distribution of a Consumers

Net Promoter score was used to evaluate consumer's satisfaction and loyalty concerning amazon products. The formula for the same is given in

$$(1). NPS = (Promoters - Detractors)/Total ratings * 100$$

(1) Rating 1,2,3 are Detractors, Rating 4 is Passive and Rating 5 is Promoters.

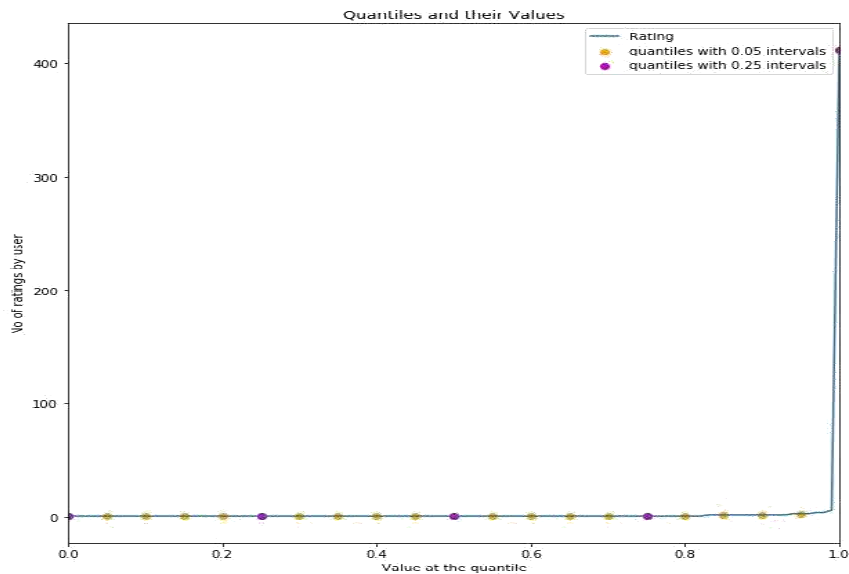


Fig 3. Analysing Rating of Consumers.

5. TECHNIQUES PROPOSED

We present two methods for evaluating customer behaviour in depth. These are the results of a sentiment analysis of all of the products. reviews to extract and comprehend customer feedback, and create recommender systems to provide a customised buying experience for the users. The review texts are first pre-processed, with all punctuation, stopwords, and stem/lemmatized phrases removed, and the cleaned text returned as a list of words. Our input variables are then vectorized. The CountVectorizer library function is used to do this. Tokenize a collection of text documents and generate a vocabulary of all the terms in that document with the CountVectorizer. This vocabulary aids in the transcription of fresh texts. The focus is on finding a pattern in the recurrence of words in that document. For analysing the sentiment score of each connected product review, we employed the categorization models below. In each of these models, 80 percent of the data is used for training and 20% is used for testing.

1) K Nearest Neighbours:

This classification model is used to locate the K closest neighbours of a given data item and determine which category it belongs to based on a distance measure. This model is a pattern recognition non-parametric supervised learning method. By presuming that comparable items are close to each other, it aids in categorising data points according to their commonalities.

2) Random Forest Classifier:

Random forests, also known as Random Decision Forests, are a type of ensemble learning method that combines numerous learning algorithms or instances of an algorithm to provide the best possible output. We create a large number of decision trees with this approach for random k points in the training set. Then, for each new data point, we generate a prediction using each of our decision trees, and output the class that is the mode of the classes or the mean forecast of the individual trees. The n estimators, or the number of trees in the forest, are set to 50 and the maximum depth of the tree is set to 90 in the random forest model.

3) Naive Bayes:

It is a supervised classification model that's based on Bayes Theorem. It assumes conditional independence between all the class variables. The Bayes theorem is given as follows:

$$P(A|B) = P(B|A) * P(A) / P(B)$$

- P(A) - Prior Probability is the probability of that event occurring in general, without any other event in the picture.
- P(B) - Marginal likelihood is the likelihood of any random variable added in the data to fall into a certain identified vicinity.
- P(B|A) - Likelihood is the probability of event B occurring given the occurrence of event A.
- P(A|B) - Posterior probability is the probability of event A occurring given the occurrence of event B.

4) The Support Vector Machine

is a classification model that is commonly used to distinguish between distinct categories using a decision boundary. The points in two classes are separated by a decision border. There can be several decision borders, but the Support Vector Machine method determines the best choice boundary. The greatest margin, which is a line equidistant from points in two different classes and having the maximum sum of the distance between the point and the line, is used to find the decision border. Support vectors are these points, and they play a big role in the algorithm's outcome.

5) Gradient Boosting Classifier

The algorithm's goal is to reduce the model's loss by employing a gradient descent-like technique to add weak learners. Weak learners are classifiers that are only minimally connected to the correct classification in this instance. It's a hypothesis-boosting algorithm of some sort. In hypothesis boosting, all of the observations used to train the algorithm are examined, and only those that were successfully classified are maintained, while the rest are eliminated. Only the observations of the set that were successfully classified are preserved, and a new weak learner is generated and tested on the set that was weakly classified. The number of boosting phases to complete is determined in our model.

6) Recurrent Neural Networks:

Recurrent neural networks are supervised learning algorithms in which the outcome of the previous phase is used as input for the following stage. RNNs are a network of nodes (neurons) that are grouped in layers. Input nodes, output nodes, and hidden nodes are all possible. All of the nodes are interconnected, which aids in the RNN model's memory, i.e. it recalls prior calculations. To do sentiment analysis on the reviews in our model, we used LSTM. LSTMs not only help to solve the problem of disappearing gradients, but they also store information in a gated cell. This cell, using gates that open and close, decides what information will be stored in the cell, read, written, or even wiped. These gates react to the signals they receive, blocking or allowing information to enter based on its intensity and importance, which they filter with their own weights. Through repeated backpropagation mistakes and gradient descent weight adjustment, the cells learn when to allow data to enter, exit, or be eliminated.

6. CONCLUSION

The purpose of this study is to assist e-commerce companies in monitoring product sales and gaining insight into client intents when purchasing a certain product. These studies assist businesses in better

understanding their clients and implementing focused marketing tactics to expand their customer base and profitability. We used several data visualisation techniques and conducted a detailed sentiment analysis on product evaluations to better understand consumer interactions with e-commerce sites. Sentiment analysis assisted us in evaluating consumer sentiments about various items, which in turn assisted us in analysing the product's market performance. With the use of natural language processing, we used five classification models for sentiment analysis of reviews and found that the Naive Bayes classifier produced the best results. Using these findings, we came to the conclusion that when a client shops on an e-commerce platform, his or her decision is influenced by a variety of factors. E-commerce businesses can identify such characteristics and take the required actions to provide better customer care and increase the lifetime value of their business.

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Fintech: Awareness Among Modern India

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ABSTRACT

Application of the term FinTech varies over a period of time. In today's age, it refers to the automation of the delivery of financial services. A great opportunity for India to develop its banking and financial sector, it still comes with its fair share of challenges. The paper offers a research to understand the awareness and usage of FinTech among India which conducts a surveys to study these challenges and opportunities and how does the publics perception of them. It conducts a research between the age group of 18-50 who represent the future of India and are the ones most likely to use FinTech applications in the present and future.

KEYWORDS:*Fintech, Technology, Fintech Challenges, Fintech Opportunities.*

1. INTRODUCTION

Financial technology, a new and popular term is described as a modern and innovative technology that works towards enhancing and automating the delivery and use of financial services. The term fintech is a shorthand for "financial technology". The key segments within the FinTech space include Digital Payments, Digital Lending, BankTech, InsurTech, and Cryptocurrency but in recent times also includes sectors and industries such as education, non-profit, investment management, and much more.

India has seen major advances in the technology and telecommunications sectors in recent years. India has a population of 1.3 billion, of which 600million people have access to smartphones which is seen to

be increasing every 25 million per quarter making it a prospering ground to launch digital initiatives and materialize Prime Minister Narendra Modi's ambitious *Digital India vision*.

In India and elsewhere, mobile phones have become an intrinsic part of people's lives, connecting them to people worldwide, which is also one of its key driving factors of sales. A Vodafone Institute Survey revealed that mobile phones will be spurring the economic and social development of the country.

Indian mobile manufacturing brands including Micromax, Karbonn, Lava, and more provide good service at reasonable prices, hence making the technology available to an average Indian. India has the highest mobile data consumption rate at 12 Gigabytes or GB per user a month in the world and has more than 700 million internet users. The emergence of *Reliance Jio* disrupted the market by providing customers with cheap 4G, high-speed data calling, and free voice calls, changing the market since its arrival. Jio's competitive pricing strategy drove down the pricing among other telecom operators, leading to aggregate growth in mobile internet accessibility as well as affordability.

India has the highest Fintech adoption rate in the world – at 87 percent – and much higher than the worldwide average rate of 64 percent. Empowering factors here include the Digital India initiative, a conducive policy environment, and the presence of a sizeable talent pool. The fintech sector has thrived during the covid 19 pandemic due to restrictions placed, reducing physical movement, and rising contactless transactions.

There are over 2100 Fintech companies in India, of which over 67 percent have been set up in the last five years. A study conducted by BCG in association with the Federation of Indian Chambers of Commerce and Industry (FICCI) stated that India's Fintech industry could reach US\$150-160 billion by 2025.

While Fintech adoption in India has been unprecedented, it continues to face certain challenges like the risk of data security and privacy leak, platform downtimes, lack of financial literacy and awareness in India, and more. FinTech companies are instrumental for financial inclusion in India since it helps increase the bankable population leading to economic and financial development of the country. Already included concept in India are Paperless lending, mobile banking, secure payment gateways, mobile wallets, and other concepts.

2. REVIEW OF LITERATURE

Dávid Varga, (2017) - The research focuses on the evolution of fintech and its approaches, the actor-based evolutionary approach and resource-based approach. It highlights the difference between the two approaches. It lays down a conceptual understanding and lays the groundwork to understand and investigate the rapid and successful growth of FinTech due to 3 distinctive forces that are, technology

and software creating new products and services, success of tech companies and end users i.e., customers being the central focus.

Anil Savio Kavuri and Alistair Milne, (2019) - The research investigates the various gaps in the FinTech industry such as reaching customers in underdeveloped and developing countries, latest technologies such as AI, Computation, and other such gaps through review of literature, discussions and focus groups with academics and policy makers. The researcher addresses these gaps in the field to make it an established academic discipline. It also provides a study of various disciplines of cryptofinance.

PDCS Dharmadasa, (2021)- The research paper focuses on the growing usage of smartphones and technology and how it replaces physical wallets with digital wallets. The paper investigates and reviews the existing literature on FinTech services and its impact on traditional financial transactions methods. It also investigates the importance of communication between the firms and consumers.

Neeta Baporikar,(2021)- The researcher adopts an exploratory approach through an in-depth literature review. The research investigates the challenges and outlook for FinTech in India.

3. RESEARCH METHODOLOGY

3.1 Objectives

- I. To study the various challenges and opportunities of FinTech in modern India.
- II. To understand the future of FinTech in today's India.
- III. To examine and analyze the perception and awareness of FinTech in modern India

3.2 Statement of Problem

FinTech is about the adoption of new technologies into the financial sector, and it is transforming the financial industry. According to commerce and industry minister Piyush Goyal, the global adoption rate of 64% is easily trumped by India's adoption rate of 87%.

The research paper hopes to understand the awareness and usage among Indian audience. Although there are many opportunities for FinTech to be successful in India, it still has to overcome a lot of challenges to reach most of the people of the country. This paper hopes to highlight the challenges such as the age factor, the geographical reach of the technology, and more and opportunities that lie ahead and people's perception of them.

3.3 Methods of Data Collection

The Primary Data Collection method will be used by collecting data from surveys.

Survey analysis is done by using percentage method

3.4 Research Design

The research paper aims to understand the awareness of FinTech among Indian audience.

The research paper aims to understand and highlight the opportunities and challenges for FinTech in modern India and how do people view it.

A survey was circulated to collect the data

The research was conducted for the age group between 18-50.

4. FINDINGS & ANALYSIS

With the increase in smartphone usage and digitization, FinTech can thrive in India. With the literacy rate in India increasing gradually over the years, FinTech has been picking up among the country especially among the youth of the country.

According to a report from KPMG 2016, India is emerging as a dynamic ecosystem that provides fintech start-ups with a platform that has the potential to grow into a \$ 1 billion unicorn.



Source: EY FinTech Adoption Index 2017 Country Dashboard.

FinTech is used in the various ways as shown above:

Although India is at the forefront of the FinTech revolution, but it comes with its fair share of **challenges**:

1. Cyberthreats:

FinTech firms contain sensitive customer data and provide massive amounts of financial information of the customers by making it available digitally to the customers. Firms need to maintain top security to prevent themselves from cyberbreaches.

2. Financial Illiteracy:

FinTechs face a staggered growth due to poor infrastructure and financial illiteracy in the population. Despite the initiatives taken by our government we still have a long road to go to be financially inclusive.

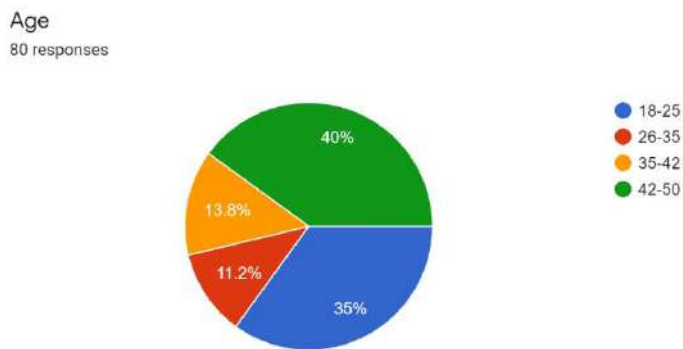
Opportunities:

1. Economic Development:

With the increase in awareness among the population, FinTech has the opportunity to bring in economic development by bringing in modernization of the banking and payment sector.

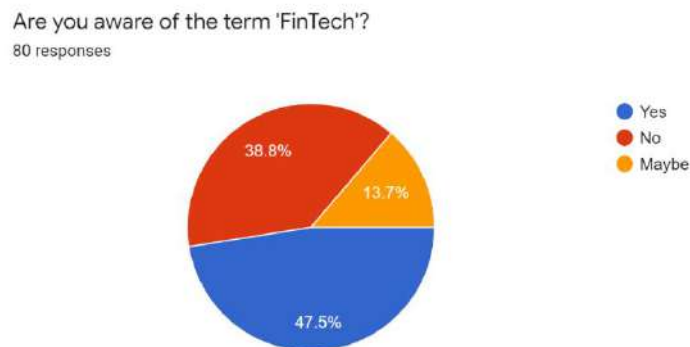
The survey conducted gave the following responses

I. Age and geographical location-



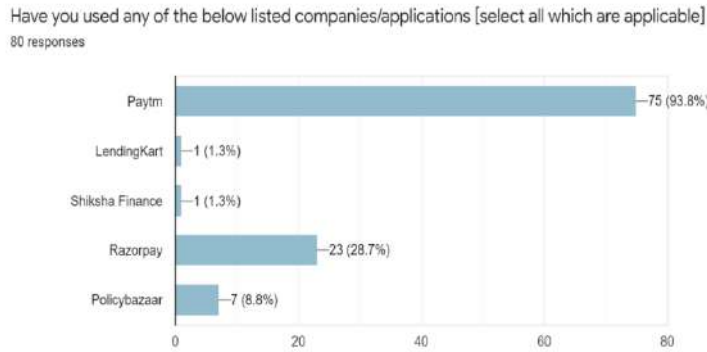
The survey circulated collected 80 responses from people between the age of 18-50, of which its geographical distribution is as shown above.

II. Awareness of FinTech:



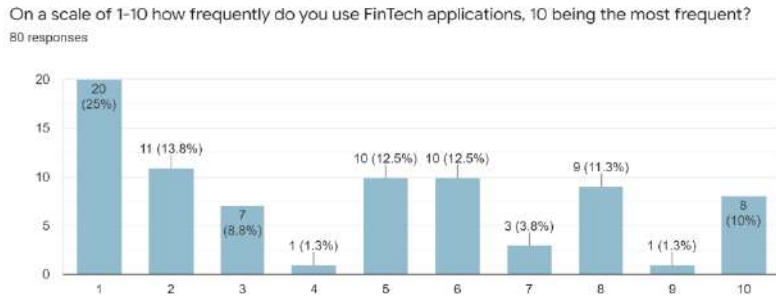
Out of the responses collected, 47.5% of people are aware of the term FinTech, 38.8% aren't and 13.7% maybe. This was done using percentage method.

III. Usage of FinTech applications:



Above shown companies are FinTech companies and it shows that even if people aren't aware of the term, they have used these apps for their services with Paytm being used by 93.8% of the respondents.

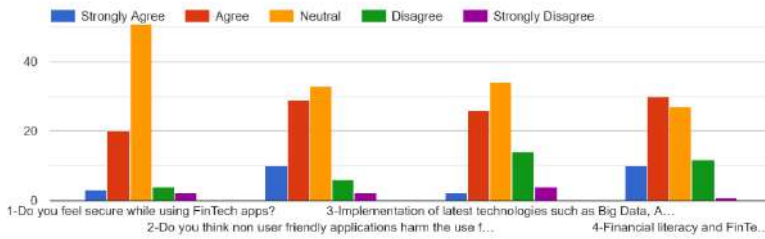
IV. Frequency of usage



Only 10% of the respondents use fintech regularly whereas 25% use them occasionally. Rating scale was used.

V. Views on Challenges faced by FinTech companies and users:

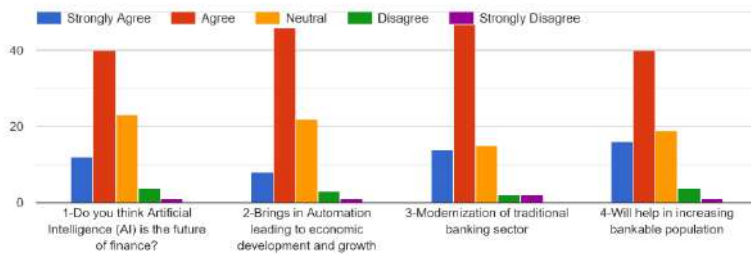
Views on Challenges faced by FinTech companies and users:



Likert scale was used to see the awareness of the respondents toward the challenges of FinTech.

VI. Views on Opportunities for FinTech Companies and users:

Views on Opportunities for FinTech Companies and users:

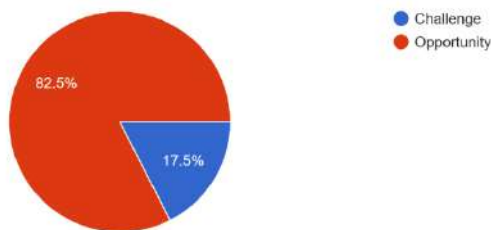


Respondents mostly agreed with these statements regarding why FinTech is an opportunity for India.

Likert scale was used for this question.

VII. Opportunity or Challenge?

Do you view FinTech as a challenge or an opportunity for modern india?
80 responses



82.5% of the respondent’s view FinTech as an opportunity for modern India whereas 17.5% view it as a challenge.

5. CONCLUSION

FinTech is the application that makes it easy for users to manage their finances. It involves innovation in delivering financial services. The research shows that over 47.5% of the respondents are aware of the

term and use fintech applications like Paytm, Razorpay & Policybazaar. Its scale of frequency in using fluctuates too from 10% to 25% among the respondents. The survey also studies the challenges and opportunities and people's views on them. Although a challenge, it can be overcome to meet all its opportunities and most of the respondents agree with it too. FinTech can easily be the future for modern India with the efforts of all involved. Due to the pandemic, physical financial transactions were impossible, which led to rise of FinTech applications which were convenient and easy to access and use.

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PSYCHOLOGICALLY ASSISTED PREDICTION OF ACADEMIC PERFORMANCE WITH MACHINE LEARNING FOR DEGREE COLLEGE STUDENTS OF MUMBAI.

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Abstract: It is often difficult to know the area we are interested in at the beginning of our learning career and many of us choose a learning style that may not be in line with our personality or interests. Making the right decision about our career path in the options available is crucial as all of our educational and career progress depends on these choices initially. This complex decision-making process requires a comprehensive learning strategy to predict the student's interest and to align it systematically with the right career path. The paper demonstrates the importance of student psychology as well as learning and study skills in predicting academic performance. The experiment was carried out on final year students' data. Machine learning algorithms used to detect the prediction of it.

Index Terms – Machine Learning, Decision Tree, Academic Achievement, Emotional Intelligence.

I. INTRODUCTION

Education is as old as humanity. From the beginning of civilization, it was considered an integral part of human society. It should therefore be reviewed according to the needs of the community as well as the individual. Perhaps modern education does not guarantee a successful life. Education in our high schools is simply to acquire knowledge of textbooks and scorecards, instead of shaping a successful future, teacher-student interaction, understanding, and managing emotions in a timely, timely manner. Our past experience and observations clearly show that even the most intelligent human beings do not always succeed in life. But why is that. Therefore, this vacuum is made during the year. Many psychologists and academics have tried to close the gap between success and failure. Emotional intelligence is a form of social intelligence that combines the ability to monitor one's own and others' emotions, to discriminate between them, and to use knowledge to direct one's thinking and actions (Salovey & Mayer, 1990). The broad range of emotional intelligence includes word-for-word analysis and emotional expression, controlling my emotions with others, and the use of emotional content in problem solving. Emotional intelligence (EI) is a concept recognized in social science literature. Emerging research in the field of education suggests that EI is positively associated with academic success. Emotional intelligence (EI) is increasingly being discussed as a potential role in other areas of health care, both personal hygiene and work ethic. EI is linked to academic performance and learns from other professions. EI was also linked to health outcomes. For example, Salovey et al in their study found that college students who scored higher on emotional intelligence were more likely to recover from depression and were less likely to become ill when under stress. The term 'Educational Success' is a very broad, descriptive term that is usually a learning outcome for students. The success of these learning outcomes requires a lot of systematic and systematic knowledge so learning is called a process. In this process of experiencing a change in behavior one cannot say all those students experience the same level of change at the same time. Learning affects three major areas of student behavior, mind, Active, Psycho motor. It is difficult to say without proper evidence that students reach the same level in all three domains at the same time. Students can be at a higher level in one domain and a lower level in another domain. This means that the student may have different levels of achievement in different areas. Since the areas of the affective and psycho-motor domain cannot be adequately explored, it is usually customary to limit school term performance to the level of student achievement in areas of comprehension in various school subjects.

II. OBJECTIVES OF STUDY

To Study Impact of psychological factors in prediction of student's academic performance using Machine Learning.

III. LITERATURE REVIEW

Elizabeth J. Austin, Phillip Evans, Ruth Goldwater, Victoria Potter (2005) conducted study on "A preliminary study of emotional intelligence, empathy and exam performance in first year medical students". A group of 156 first year medical students completed measures of emotional intelligence (EI) and physician empathy, and a scale assessing their feelings about a communications skills course component. Females scored significantly higher than males on EI. Exam performance in the autumn term on a course component (Health and Society) covering general issues in medicine was positively and significantly related to EI score but there was no association between EI and exam performance later in the year.

Raymond M O'Connor, Ian S Little, conducted study on "Revisiting the predictive validity of emotional intelligence: self-report versus ability-based measures, Personality and Individual Differences". In response to general press assertions that training emotionally intelligent children will lead to great rewards, this study examined the relationship between emotional intelligence (EI) and academic achievement in college students, using both self-report and ability-based measures of EI. Specifically, the Mayer, Salovey, Caruso Emotional Intelligence Test (MSCEIT, an ability-based measure) and the Bar-On Emotional Quotient Inventory (EQ-i, a self-report measure) were used to predict academic achievement. Achievement was operationalized as the respondents' cumulative GPA.

Ioannis Tsaousis, Ioannis Nikolaou conducted study on "Exploring the relationship of emotional intelligence with physical and psychological health functioning". This study investigates the relationship of emotional intelligence (EI) characteristics, such as perception, control, use and understanding of emotions, with physical and psychological health. In the first study, 365 individuals filled in measures of EI and general health. It was hypothesized that EI would be negatively associated with poor general health. In the second study, 212 working adults completed the same measure of EI and another measure, which apart from the standard information regarding physical and psychological health, provided also information about other health related behaviours, such as smoking, drinking, and exercising.

Dharanendruppa, S. N. conducted study on "A study of relationship among mental health emotional intelligence and academic achievement of secondary school students". This study investigates the relationship of mental health emotional intelligence and academic achievement of secondary school students.

3.1 Population and Sample

Real-time data is gathered by surveying 150 students and having them complete an online questionnaire. The questionnaire includes questions about previous year scores and personality traits. Separately, the data was compiled in a CSV file for two phases of implementation. The compiled data included the student's first and last name, registration number, matriculate score, pre-university examination score, CGPA of six semesters, LASSI scale scores, and personality type. The Min Max Algorithm is then used to normalize the data. The data is divided into two sets, one for training and one for testing, in a 70:30 ratio.

3.2 Theoretical framework

The Neural Networks perform better in terms of capturing nonlinear trends in data and providing numerical predictions. It was used in the current experiment to calculate the CGPA of a single student in the sixth semester. The Decision Tree algorithm is used to classify students into the Pass or Fail category. The experiment's main goal is to show how psychological factors in students play an important role in predicting pre-final year grades.

A. Regression using Neural Network

The Neural Networks perform better in terms of capturing nonlinear trends in data and providing numerical predictions. It was used in the current experiment to calculate the CGPA of a single student in the sixth semester. The Decision Tree algorithm is used to classify students into the Pass or Fail category [3]. The experiment's main goal is to show how psychological factors in students play an important role in predicting pre-final year grades.

B. Classification using Decision tree

Decision Tree is a classification algorithm that decides whether a specific value should be accepted or rejected, and it provides with the set of the IF-Then rules for transforming present state to future state. The tree structure is used to represent decision tree in which variant types of the nodes are connected by the branches where the topmost node is called as root node and the leaves are called decision node.

C. Learning and Study Skills Inventory (LASSI)

The LASSI is a diagnostic tool that examines student thought processes and behaviors that influence the learning process. The primary focus is on the covert and overt thoughts that are required for success in the learning process and can be altered through educational interventions. It has ten scales that can be used to capture the thought process, including Attitude, Motivation, Time Management, Anxiety, Concentration, Information Processing, Selecting Main Ideas, Study Aids, Self-Testing, and Test Strategies.

Individual students are given online questionnaire forms, and the scores for each scale are determined based on the responses they provide.

4. RESEARCH METHODOLOGY

The experiment was carried out in three stages, using two techniques of regression and classification for numeric value prediction and classifying students into two types of classes, namely success and failure.

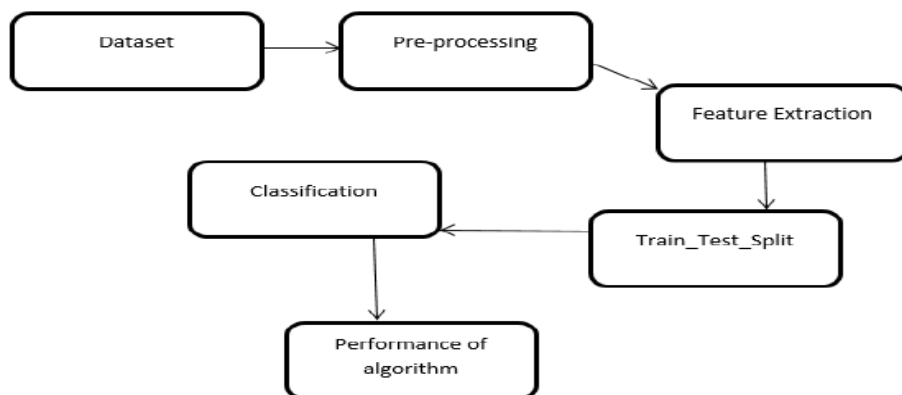


Figure 1: Students Performance Prediction Using Machine Learning.

4.1 Data Preprocessing

Individual student SEM6Score numeric prediction is done using Neural Network, and Decision Tree is used to classify students into two classes of PASS or FAIL. Both models are trained using the input data of the matriculate and pre-university board exam results, as well as CGPA five semesters. The models were assessed using MSE, accuracy, and confusion are all examples of correlation coefficients. The input for the Neural network and Decision tree included psychological factors such as motivation, concentration, information processing, time management, self-testing, study aids, and study main ideas, in addition to the previous phase inputs of matriculate and pre-university board exam scores and five semester CGPA. The models were evaluated once more using the correlation coefficient, MSE, accuracy, and confusion matrix.

Input variables	Output Variable
MATRICULATE PERCENTAGE	SEM6 CGPA
PRE-UNIVERSITY EXAM PERCENTAGE	
SEM1 CGPA	
SEM 2 CGPA	
SEM 3CGPA	
SEM 4CGPA	
SEM 5 CGPA	
MOTIVATION	
CONCENTRATION	
INFORMATION PROCESSING	
TIME MANAGEMENT	
SELF TESTING	
STUDY AIDS	
STUDY MAIN IDEAS.	

4.2 Modelling the Decision tree

The Decision Tree in this phase gave the same binary prediction of Pass (1) or Fail (0) class. Decision tree prepared on the variable motivation, consternation, study Aids, Time management.

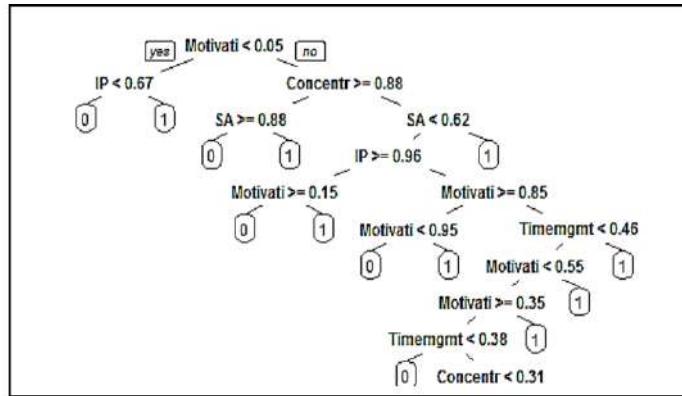


Figure 2: Decision Tree Mapping

IV. RESULTS AND DISCUSSION

In Decision Tree evaluation, sensitivity denoted the proportion of correctly classified passed students, specificity denoted the proportion of correctly classified failed students, and accuracy defined the proportion of correctly classified success and failure. The rate of accuracy was found to be higher in PHASE 2 than in PHASE 1. The number of true positives and false negatives increased after the psychological factors and learning and study skills data were added. Correlation analysis was performed between the SEM6 Score output variable and the LASSI scales. The correlation matrix revealed that the SEM6 Score had a positive correlation with motivation, information processing, and study aids. This demonstrated the student's motivation, as well as how they perceived the information provided to them and how they used it.

Conclusion

Improving the education system is a major challenge; however, we can assist in achieving this goal by utilizing technologies and study resources such as machine learning materials to develop an innovative solution to assist students in need, particularly students who live in difficult circumstances. In this paper, we came up with the idea of developing a model that predicts students status based on various functionalities. Study demonstrates the importance of thought process in predicting academic performance of students. The precise prediction will aid in the planning of students who are underperforming receive remedial coaching and assist them in improving their grades in upcoming semesters. A professor can easily obtain an overview of his or her class performance. Before the examination and can plan student counselling as well as additional teaching hours for the needy students.

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