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*Embracing change &
Transformation:
Vision 2025*



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Vision 2025

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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 Conference - "Embracing Change and Transformation: Vision 2025" 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 Keynote Speakers Padma Shri Ujjwal Nikam and Shri VV Lakshminarayan and our Expert Panelists- Dr. Pankaj Koinkar, Dr. Chandrahas Deshpande, Dr. Harish Shetty and Dr. Manali Londhe and Moderator of the Panel Discussion Prof. Sindhu Krishnan 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. Swagatika Nanda and Dr. Jyotsna Golhar 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 Conference V-CMT 2021.

Dr. Rohini Kelkar

Principal,

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Indian Electric Vehicles Market: The Way Ahead

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ABSTRACT

The world has witnessed rapid progress of environment friendly electric vehicles market in the recent past. The fact is developed countries like France and UK have already planned to forbid diesel and petrol car sales 2040 onwards and it is anticipated by experts that prospective Europe car market will be all electric even before 2040. India is also transforming swiftly in this sector, many new companies are producing novel models and renovating the car industry. Buyers have started showing more interest towards electric vehicles owing to its popularity in global market. The Indian automobile industry is changing its product line from conventional vehicles to new hybrid models. According to specialists' Indian electric vehicles demand is going to rise at a remarkable rate due to favourable announcements in union budget 2020-21 and evidently by reason of less carbon emission. Many companies have also come up with installing charging points for EVs as a result of substantial growth. Looking at this, the present study aims at reviewing the Indian Automobile Production and Sales Trends in the first hand and to comprehend the Challenges faced by Indian Electric Vehicle Market and Opportunities thereon. The entire study is based on secondary data collected from official websites, journals, and magazines.

Keywords: *Two Wheelers, Electric Vehicles, Automobile Industry.*

1. INTRODUCTION

21st century has brought a momentum in research and development in the field of ecological protection and consequently growth in demand of electric vehicles has been increased. Global automobile industry is dynamically changing as a result of increasing automation and digitisation. The effects of these two factors can be observed from change in consumer preferences. On the other hand Indian Automobile Sector is also facing disruptions caused by revolutionised technology as the economy dynamics and consumer preferences are contrasting. There is an imperative need to understand the forthcoming changes and reinvent the sector as per global standards and Indian consumer preferences. The transformation will bring a notable change in consumer behaviour as well as it will bring new dimensions to compete and collaborate. The future of automobile sector is revolutionary in India as out of Top 20 most polluted countries in the world 13 are in India so it becomes essential to minimise levels of pollution caused by automobiles. Electrification has brought a makeover in automotive industry globally. It is anticipated that by 2030 electric vehicles are going to share 50% of total automobile sales and it will ominously impact Indian Automotive supply chain.

Pull and Push Factors for Electric Vehicles Adaption:

As compared to other countries Electric Vehicles sales are significantly low in India. A proper mix of pull and push factors could be a determinant of dissemination of EVs in India.

1. Many first world countries have augmented the usage of e vehicles by offering different types of incentives as well as an environment which supports stringent regulations on carbon emissions.
2. Another important reason impacting manufacturing and sales e of e vehicles is high cost of batteries. Advanced research in this segment may reduce cost of battery and on the other hand increase mileage resulting in its availability at reasonable price.
3. Availability of reasonable charging infrastructure for meeting customer daily needs can be one of the major drivers.
4. Pushing affordable e vehicles in the market to encourage customers to buy e vehicles is need of the hour.

2. REVIEW OF LITERATURE

The literature review was engrossed on Electric and Hybrid cars sector. **Chetan Kumar Maini, (2005)** concluded that EVs are the best solution to reduce cities pollution with many societal and economic benefits by EVs and HEVs use. It also outlined the role Government and worldwide communities played to promote and accelerate EV program.

Holms et al, (2010) designated that electric vehicles should be proposed to replace conventional vehicles in the future and they studied how financial incentive and socio economic aspect of consumers increase electric vehicle adoption in many countries.

Liu and Santos (2015) found that found that as compared to gasoline vehicles, E Vehicles consume 37.5% less energy and 35% less greenhouse gas emissions.

MehrdadEhsani, YiminGao, Stefano Longo, Kambiz M. Ebrahimi (2018) stated that Electric vehicles use an electric motor for traction, chemical batteries, fuel cells, ultra-capacitors, and flywheels. The electric vehicle has advantages of emissions, high efficiency and smooth operation.

3. OBJECTIVES OF THE STUDY

Following are the objectives of the study:

1. To review the Indian Automobile Production And Sales Trends
2. To comprehend the Indian Electric Vehicle Market Challenges And Opportunities

3. RESEARCH METHODOLOGY

The present study is descriptive in nature and entire data is collected through published sources. Relevant websites, research articles, magazines etc. were referred. The period of the study is six years starting from 2014-15 to 2019-20. Data were presented through tables and charts for better and easy understanding.

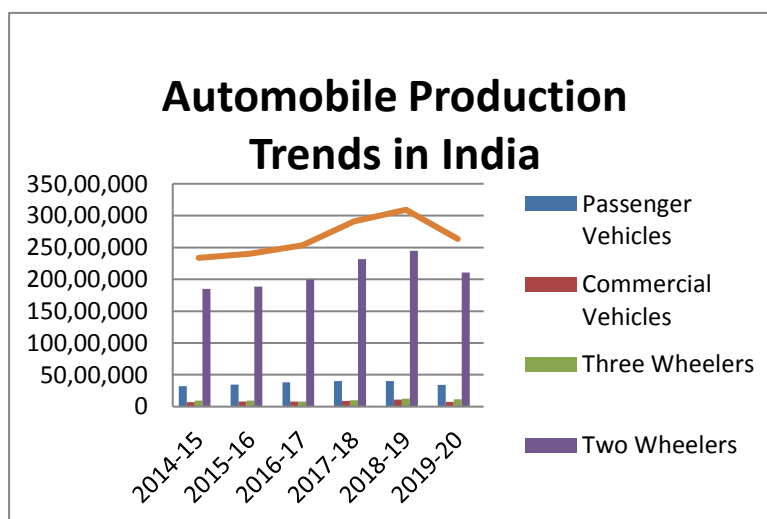
4. DATA ANALYSIS AND DISCUSSION

Table No. 1: Automobile Production in India

Category	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Passenger Vehicles	3,221,419	3,465,045	3,801,670	4,020,267	4,028,471	3,434,013
Commercial Vehicles	698,298	786,692	810,253	895,448	1,112,405	752,022
Three Wheelers	949,019	934,104	783,721	1022,181	1,268,833	1,133,858
Two Wheelers	18,489,311	18,830,227	19,933,739	23,154,838	24,499,777	21,036,294
Quadricycle*		531	1,584	1,713	5,388	6,095
Grand Total	23,358,047	24,016,599	25,330,967	29,094,447	30,914,874	26,362,282

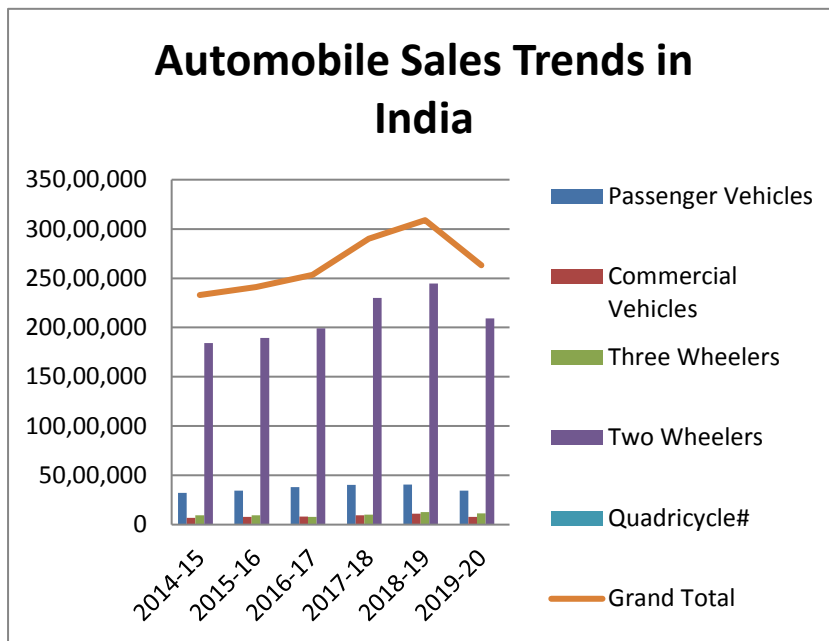
*Only Oct-March 2016 data is available for 2015-16 Source: Society of Indian Automobile Manufacturers

Entire automobile market in India is divided into 5 categories which are Passenger Vehicles, Commercial Vehicles, Three Wheelers, Two Wheelers and Quadricycle. From the above statistics it is visible that India is a market of two wheelers and passenger vehicles. The industry produced a total 26,362,282 vehicles in 2019-20 as against 30,914,874 in 2018-19, registering a de-growth of (-) 14.73% over previous year.

**TABLE: 2 AUTOMOBILE SALES (Domestic + Exports) TREND in India**

Category	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Passenger Vehicles	32,22,577	34,42,261	38,06,309	40,36,947	40,53,581	34,50,886
Commercial Vehicles	7,01,887	7,88,828	8,22,353	9,53,781	11,07,244	7,78,401
Three Wheelers	9,40,226	9,42,649	7,83,773	10,16,700	12,68,688	11,38,738
Two Wheelers	1,84,33,027	1,89,38,727	1,99,30,015	2,30,15,120	2,44,60,688	2,09,37,992
Quadricycle		334	1,556	1,605	5,027	6,127
Grand Total	2,32,97,717	2,41,12,799	2,53,44,006	2,90,24,153	3,08,95,228	2,63,12,144

Source: Society of Indian Automobile Manufacturers



Total sales of automobiles have increased gradually over these years. A decline of sales by 14.83% by can be observed in the year 2019-20. It can be due to development of changes in consumer preferences and environmental sustainability to reshape the automotive industry. Changing consumer preferences and technological interferences are transforming the facet of mobility, urging

automakers to reconsider plans and strategies.

Drivers of Electric Vehicle Market in India:

Regardless of several difficulties and challenges electric vehicle market is growing gradually in India. The factors contributing to this growth are:

- Central Government has launched Electric Vehicles FAME-II Program for all approved electric vehicle models and offered incentives to 7 Million EV's by December 2020.
- The National Electric Mobility Mission Plan (NEMMP) 2020 aim to achieve national fuel security by promoting hybrid and electric vehicles in the country. There is an ambitious target to achieve 6-7 million sales of hybrid and electric vehicles year on year from 2020 onwards.
- Low maintenance operations costs for electric vehicles
- Rising crude oil cost as 80% of crude oil requirement is imported

Although, in India's EV market is at a very nascent stage and , currently the challenges seem to outweigh the opportunities in India but the right steps from government by support dynamics for EVs in India at various levels is anticipated to transform it as opportunities are in large numbers in future.

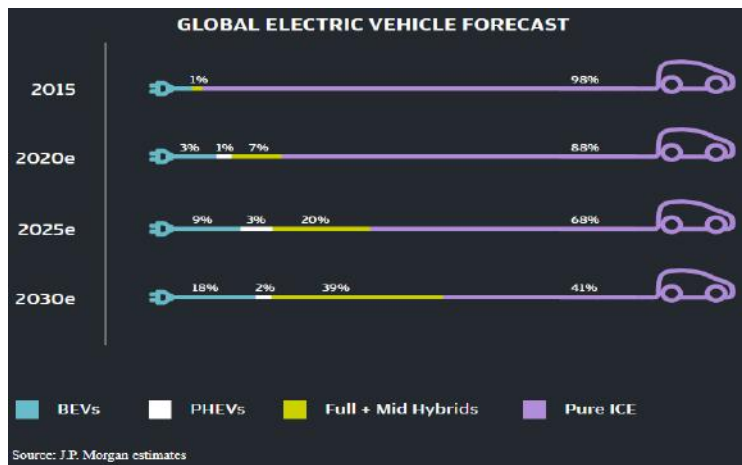
Global Electric Vehicle Market:

The car industry is undergoing a radical transformation, with most carmakers agreeing the next 10 years will bring more change than the two previous decades. The next target date cited by automakers as a tipping point is 2025, when everything from materials and fuel to cost and the companies that build cars are set to look dramatically different. In this report, the J.P. Morgan Research team explores the rise of the electric vehicle and what the industry will look like by 2025.

Shifting Gears to Electric Vehicles

Automakers are preparing to phase out cars powered solely by internal combustion engines (ICEs) as governments look to tackle fuel emissions. The growth in electric vehicles (EVs) and hybrid electric vehicles (HEVs) is climbing and by 2025, EVs and HEVs will account for

an estimated 30% of all vehicle sales. Comparatively, in 2016 just under 1 million vehicles or 1% of global auto sales came from plug-in electric vehicles (PEVs).



By 2025, J.P. Morgan estimates this will rise close to 8.4 million vehicles or a 7.7% market share. While this jump is significant, it doesn't compare to the kind of growth expected in HEVs - cars that combine a fuel engine with electric elements. This sector is forecast to swell from just 3% of global market share to more than 25 million vehicles or 23% of global sales over the same period.¹ This leaves pure-ICE vehicles with around 70% of the

market share in 2025, with this falling to around 40% by 2030, predominantly in emerging markets.

Indian Electric Vehicle Market:

Indian automobile industry is one of the largest growing industry in the world, and the sector promises further growth in manufacturing sector driving country's economic growth. It is estimated that more than 30 million vehicles were produced in FY19, reporting a jump of 5.41% from the previous fiscal. This includes passenger vehicles, commercial vehicles, three wheelers and two-wheelers. Since the industry is seen to largely contribute to pollution, the government has been aggressively trying to control the situation. Promoting Electric Vehicles in a core component of this endeavour.

In order to boost the manufacturing of hybrid and electric vehicles in India, Government of India has launched The Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (FAME Scheme) in 2015, under National Electric Mobility Mission Plan (NEMMP) with an aim to promote eco-friendly vehicles in country. It has set an ambitious target of 6-7 million sales of hybrid and electric vehicles year on year from 2020 onwards in India, thereby creating wide opportunities in EV manufacturing. So far under Union Government's FAME scheme, incentives worth INR 211.74 Crores have been disbursed, enabling 1,77,214 are on roads, saving 21.3 lac litres of fuel and reducing 104,553 kgs of Carbon Dioxide per day³. The government has determined to curb polluting emissions from automobile industry and envisions switching to 100% hybrid or electric vehicles by 2030.

Ev Opportunities in India & Anticipated Growth:

Recent developments in EV market in India have been positive, with Tata Motors has rolling out its first batch of Tigor EV, as part of the tender for 10,000 electric vehicles floated by the Government's EESL. Similarly, Suzuki and Toyota have teamed up to bring electric vehicles to India by 2021, Ola and Indian Oil have launched the country's first charging station in Nagpur. In a recent report published by FICCI and Rocky Mountain Institute, it has been estimated that India's shift to shared, electric and connected mobility could help save up to INR 20 Lakh Cr in oil imports and nearly 1 Giga Tonnes of carbon dioxide emissions by 2030. The report further states that the sales of 4-wheel EVs are expected to exceed that of internal combustion engines (ICEs) in India by 2027.

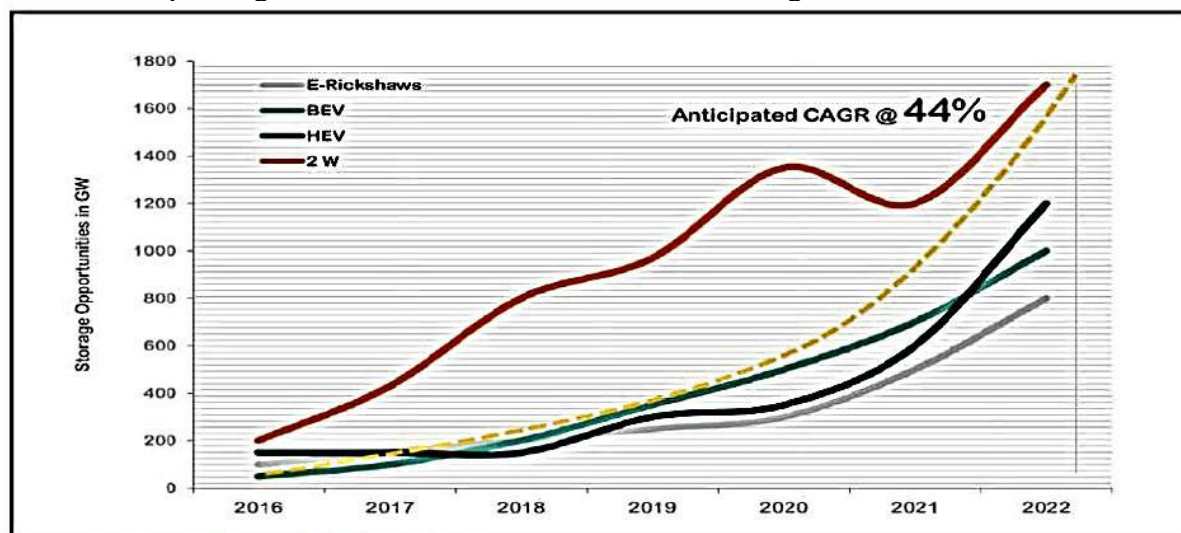
The Electric Vehicle market in India is set to go enormous, and is estimated to be around 80 lacs by 2021, and approximately 5 crores by 2030. Prices of Lithium Batteries are rapidly going down, thereby making EVs cheaper. Presently, average cost of a Lithium Battery is around INR 19,500/kWh (2019-20), which is estimated to go down to INR 9,945/kWh⁸ by 2022-23. Electric Vehicles Storage Opportunities (in GW) in India is anticipated to grow at CAGR 44% till 2022.

Estimated Annual Market size of EVs in different segments is as under:

Estimated Annual Market size of EVs in different segments in India				
Segment / Year	EV Motorcycles and Scooter	EV Auto rickshaw	EV Cars & Jeeps	Total
2020	73,52,000	6,46,000	26,000	80,24,000
2025	1,40,35,000	23,64,000	15,92,000	1,79,91,000
2030	2,65,14,000	40,72,000	1,59,11,000	4,64,97,000

Source: NITI Aayog and RMI Analysis, November 2017

According to Persistence Market Research report India electric vehicles market is forecasted to expand at a CAGR of 77% in value during 2017 – 2025 and forecasted are By Vehicle Type Forecast India electric vehicle market is anticipated to increase during FY 2018-FY2023 at 37% CAGR , market growth is anticipated on account of increasing government initiatives and growing consumer inclination, concerns over harmful effects of air pollution, and huge investments by various OEMs for developing more affordable premium electric vehicles and passenger cars and two wheelers are the main segments.



Source: Eninco⁷ Research. IESA

The technology comprises hybrid electric vehicles, plug-in hybrid and battery electric vehicles. In India Hybrid and battery electric vehicles is expected to dominate the market. A large market share of the battery electric vehicles about 85% in 2025 is expected to be sales of two wheelers in India. The stored electricity is expected to be the most important in India electric vehicles market and is anticipated to dominate .The electric vehicle storage market in India is expected to be 4.7 GW by 2022.

The Indian market for electric vehicles is segmented into series hybrid, parallel hybrid and combined hybrid. Parallel hybrid is the most preferred owing to its advantages above other power train types but this is not included in electric vehicle battery as it involves both internal combustion engine and an electric motor.

India The Way Ahead:

Besides the end-user customer, other key stakeholders who play an important role in India's transition towards EVs are government Incentives and subsidies and automotive value chain industry. The government helps by defining the regulations relating to emission norms, fuel efficiency, strategic intent and direction, exploring incentives and subsidies, and developing a supportive ecosystem. The Indian government's current CO₂ emission target based on the Paris Climate Treaty is to continue at 113 g/km by 2021. Aligned with Corporate Average Fuel Consumption standard the fuel efficiency average target is 22 km/litre by 2035. The Indian government also has planned to reduce crude oil imports and indirect dependence on certain trade partners.

The Indian government could focus on following areas:

- The government could set up committees to provide guidance as and when industry stakeholders need any support to achieve their targets. As it drives EV penetration through policy and long term direction, the government could also define its level of participation in the means employed to meet the policies and targets.
- According to an OECD report, India is providing few subsidies, compared to other major markets. Various state governments and cities provide their own subsidies.
- By changing the product mix, building the right service skill sets, improving the performance of batteries and electric vehicles and building scale, the industry can drive the EV disruption in India.
- The charging stations are required for the increased usage of electric vehicles. The Lead acid and lithium ion batteries are used in automotive sectors. The process of charging can take anywhere between 30 minutes (fast charging) up to 24 hours, depending on the specifications of the battery and the charger. At present, there are two main types of plug-in EV charging stations: AC and DC. An AC charging station supplies current to on-board charger and normally offers 8 to 24 km range per 30 minutes of charging. A DC charging station supplies current directly to the vehicle battery and is capable of providing up to 129 km of electric range for every 30 minutes charge.

5. RECOMMENDATIONS

The present study suggests following recommendations to increase EV penetration.

- It is observed that, manufacturers should provide the best and value-added Services with product availability hence companies should try to tap customers by providing attractive financial incentives and offers to boost the sales
- It is also recommended that the companies in association with government, banks and financial institutions should provide vehicle loans to middle class customers with low interest rate to increase usage.
- Today youths are very environment conscious and also decision takers in family decision making. Hence the companies should promote and advertise their vehicles in this regard, companies should give some additional discounts, incentives or special offers for college students who plan to buy an electric vehicle.
- To promote electric vehicle government and manufacturers should increase its awareness among consumers.

6. CONCLUSION AND FUTURE SCOPE

Electric vehicles are a means of worldwide sustainable transportation and its usage is increasing rapidly. The Indian government has also started to accelerate the EVs penetration. However, many hurdles should be dealt with for wider and easy adoption of EVs in India. Being a nascent player in EV transportation, the most important barriers identified include state Government Incentives and Consumer Characteristics. All Consumers are enthusiastic to reduce pollution reduction but the various costs is high (purchasing cost, minimum operating cost, vehicle cost, payback period, operating cost, maintenance cost and electricity cost, resale) .hence, a cost-effective vehicle is required for the Indian markets. Participants in industry meets arranged by the Center for Future Mobility in Delhi and Chennai mentioned high acquisition cost as the top restraint to EV penetration. The charging infrastructure, the electric vehicle performance safety concerns and new user anxiety affect EV adoption strongly Thus, in the perception of researcher, penetration pricing strategy is more suitable for Indian automobile sector which has a lot of middle class consumers . This indicates that Indian automobile policymakers must act on it to take advantage of growth in this sector as a lot of national fuel can be conserved by using these electric vehicles along with reduced emissions.

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A Review on Factors Influencing Employee Productivity

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ABSTRACT

This paper examines to the extent to which monetary and non-monetary incentives can determine employee productivity in an organization. Employee productivity is measured with respect to monetary incentives, Non-monetary benefits, work culture and work environment. In a competitive business world Human resource department plays an essential role in attracting and retaining effective and efficient employees thus, the study helps in understanding the direct and indirect influence of these determinants on employee productivity. Human resource manager not just focus on to fulfil organizational objectives but also help in fulfilment of Employee's personal needs. It is always been a challenging task as a Human resource professional to identify what motivates the individuals in the organizations and what influences their job satisfaction. Rewards are the benefits provided for the employees upon completion of the given task which can be of money, money's worth, gift or certificates. Recent trends have led to significant impact on employee experience, rather than just engaging employees in workplace it is also necessary that the human resource manager creates un-forgettable experience for the employees in the work place which helps in achieving overall job satisfaction for the employees and enhancing organizational culture and performance.

Keywords: *Employee productivity, employee retention, Human Resource, Rewards, Motivation, Job satisfaction.*

1. INTRODUCTION

Human resource management practices have an important role in organizational development as well as individual development to achieve overall organizational objectives (Skirbekk, 2015). Human resource functions include planning, organizing, directing and controlling individuals in the organization (Saleem, 2011). planning includes to analyses the labour force and the skill set required to carry out a particular task and to accomplish organizational goal. The information to be collected by the Human resource manager and analysed to understand the present & future requirements by assessing individual based on their qualification, age, skills set, attitude, behaviour and other characteristics of the individual (Pandey and Dubey,

2020). Organize is to set up the workplace, allocating task among the employees and combining the activities for the achievement of common objectives (Abdullah, 2013). To organize is to place the right people for the right job with the proper workplace to carry out the given task. Directing is also considered as the heart of the management process where is it the duty of the employer to guide, instruct, supervise, influence and assess the Employee's performance (Naveen & Yenugula, 2017). Controlling is to Scrutinize the actual performance of the employees and assess them with the objectives and bridging the gap between where the Employee's stand and where they must be to achieve the organizational goal effectively and efficiently (Waqas & Saleem, 2014). Human resource operative functions include recruitment & selection, job analysis & design, performance appraisal, training and development,

compensation management and labor relations all the above functions play a vital role in carrying out day to day activities of the business (Sorauren, 2000). Recruitment process is identifying the need of the organization and attracting individuals and interviewing them are an essential part of recruitment (Gunawan & Febrianto, 2014).

In contrast, the selection is to select the potential candidate who is most suitable for the job and hiring them and giving the necessary training that is required to carry out the task. Job analysis is to express the nature of the job and identify the individual requirement like qualification, work experience, skills required to perform the job whereas, job design direct at outlining the organizational duties, tasks, and responsibilities to be carried out into single phase for the achievement of the overall objectives of the organization.

2. REVIEW OF LITERATURE

The author Saba Saleem (2011) starts off with the impact and influence of financial incentives on employee commitment. It is always remained as a challenge for Human resource professionals to attract and retain employees in the organization, as the talented individuals contributes to the betterment of the overall performance. Financial incentives have a positive impact on individuals' commitment and loyalty towards the organization. Financial incentives include profit sharing, bonus, employee stock ownership etc. these helps in attracting the individual and retaining them in the organization. The most important Human resource management issue is with the incentive structure. Due to global competition, the ways of rewarding employees have influenced the Human resource department to adapt to the modern rewarding and compensation Management. Individuals' commitment towards the organization leads to an increase his/her performance thereby reducing employee turnover; therefore, the loyalty of employees varies on how well the individual is motivated and satisfied with his work. Maslow's hierarchy is used to understand the individual needs over different stages and the employer has to understand the employee/ individual requirements. Not all the employees are attracted to financial incentives but employees are also attracted to the non-monetary benefits offered by the company.

The authors start off by saying different capabilities doesn't make people different it is the influence of the behaviour which is exhibited at workplace and the ethics of the work. whereas, individual's behaviour describes his/her character, beliefs and values, it is necessary to have positive attitude in work place which will lead to increase in performance of the individual, less absenteeism and increase in motivation and the individual commitment towards organization. Positive influence is created by job satisfaction in the workplace which leads to increase in overall satisfaction in general. This is where job satisfaction comes in and plays an important role, job satisfaction is a combination of work environment, work culture, psychological needs and physiological needs that motivates a person and in turn increase his/her job satisfaction. As we already know not all individuals are same which is also the same with job satisfaction whereas, it is solely the individual perception where he/she being attracted to monetary or non-monetary. Human resource manager has to carry out frequent job satisfaction analysis in order to identify what motivates the employee productivity, and it is a very challenging task taking into account the background of the Employee, cultural characteristics, and the need of the Employee.

The study helps understand the reward system in fast food industry and the effect of monetary or non-monetary rewards. the author starts off by addressing the problems faced by fast food restaurants located in port Harcourt, as they noticed the movement of Employee from one restaurant to another as this was due to the attraction towards other organization

which had led to involuntary mobility. Voluntary or involuntary mobility may also be caused due to Employee not satisfied with the rewards or incentives provided by the organization. In today's world there are lots of emerging business and increase in competition, thus it is a challenging task for a business to retain its Employee and also focusing on incentives and rewards to motivate employees. The author also tells that is it the rewards system that has caused the mobility of the Employee from one organization to other. Reward system play a significant role in retaining and attracting employees.

Richard G. Gunawan & Hendry Febrianto (2014) conducted the study in order to understand the impact of monetary and non-monetary incentives on Employee motivation. The author starts off by telling that employees are the ones who are behind the strategies which are successful and well-executed; thus, it is the duty of the organization/management to understand what drives employees' productivity and how the employees are motivated. In today's world, there are competitors emerging each and every day, thus putting the company in crucial place and it is a great challenge for the Management to retain their employees and motivate them. It is also noticed by many researchers that the success of the company is in the hands of employees so it is the duty of the Management to motivate them and in turn, maximize their productivity. Incentives are the main factor to which any employee can be motivated through, may it be monetary or non-monetary as it varies from individuals and recognition system also influences Employee's satisfaction and increases the performance of the individuals over time.

3.METHODOLOGY

The study has considered 36 journal articles and proceedings pertaining to the topic of employee performance and the factors influencing the same. Each of the article's idea, summarisation, brief conclusion of the author's work forms the crux of the review. The study has considered only a limited number of researches works, however there exist a large data of resources available on the topic both online and offline.

The primary motive of the study is to understand the past and present scenarios related to employee performance indicators. The evolution if any in terms of employee behaviour is expected to be captured. The reviewing follows a pattern of introducing the author's ideas, cumulating them with related ideas, identifying the methodology of the studies conducted and providing a summary of conclusions.

The analysis comprises of the reviews, classification of the different determinants like, demographics which include age, gender, background, followed by monetary and non-monetary incentive, and also the external aspect of work culture and environment. The different determinants are classified to notice the frequency with which each of them appears under the purview of employee productivity. The analysis however considers the most relevant papers, deemed relevant by the author only.

Post analysis and reviewing of the existing work, the paper concludes with the most relevant aspects to help give an insight to the human resource practitioners and professionals a brief understanding about employee behaviour patterns.

ANALYSIS

Determinant	Frequency	Percentage / Total
Monetary and Non-monetary Incentives	16	44.44%
Demographics	7	19.45%
Work Culture and Environment	13	36.11%
Total	36	100.00%

Table 1

Table showing the various determinants considered for review and their respective importance percentages for better evaluation of determinants.

The importance percentage is dependent on the article frequencies of this particular study which is limited to a few number

The review has considered a total of 16 papers of the possible 36 which highlight the importance of monetary and non-monetary benefits as the key to achieve employee productivity. This comprises a total of 44.44% of importance while determining the factors to enhance employee productivity. The next factor the effects productivity as highlighted by the frequency of its appearance in the reviews is the work culture and environment. This comprises a total of 36.11% of importance. This being an external determinant, the organizations and work towards making the culture and the work environment friendly and accessible to the employees which in turn fuels them to be efficient. The final factor considered in the study as a determinant is the employee demographics which includes age, gender, ethnicity, etc., has a

19.45% importance and has minimal effect on productivity.

This analysis shows that the organizations if ensure the incentive schemes appropriately and also structure their culture and environment in favor to the employees the productivity can be improved tremendously.

4. CONCLUSION

Employee performance and productivity is affected by several factors ranging from employee incentives to the work environment, the review papers directly show that these factors have a direct impact on employee motivation and productivity. In a competitive business world Human resource department plays an essential role in attracting and retaining effective and efficient employees thus, the study helps in understanding the direct and indirect influence on employee productivity. The papers reviewed in this study discusses briefly about the interaction between the various factors that affects individual productivity towards the organization. There has been a significant evolution in the Employee's response to incentives, factors like Age, culture, employee background, ethnicity, work culture and environment has a significant Impact on employees' productivity. Adapting to the changing needs of the employees the Human resource department has become more dynamic and the integral part of the organization. This review paper provides an understanding to the human resource professional to interpret individual employee behavior and provide incentives as per the need. Rewards are the benefits provided for the employees upon completion of the given task which can be of money, money's worth, gift or certificates. Unlike incentives, rewards

are granted by the employers to the employees for the short-term goal achievement where incentives fall under the broader category, which helps in keeping the employees motivated on the long run. Incentives and rewards overall, focus on understanding intrinsic and extrinsic factors of motivation, which has a massive influence on an individual's satisfaction and overall performance. The review papers examine to the extent to which monetary and non-monetary incentives can determine employee productivity in an organization, the studies until now shows that rewards can be an effective motivator to enhance productivity.

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A study of Artificial Intelligence and its role in Finance

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ABSTRACT

Artificial Intelligence (AI) is the branch of computer sciences that emphasizes the development of intelligence machines, thinking and working like humans. For example, speech recognition, problem-solving, learning and planning. The main aim of this study was to examine the influence of AI in finance. The study of AI in service industry had an impact in financial sector. The best feature of AI is its personalized banking that helps you in managing your accounts by analysing your previous records. The maintenance and production cost of AI is quite high and the software has to be updated time to time to meet the new technological changes. The research was done through secondary method.

Keywords: - *Artificial intelligence, benefits, disadvantages.*

1. INTRODUCTION

What is AI?

Artificial intelligence (AI) is an of computer science that emphasizes the creation of intelligent machines that work and react like humans. The most commonly used AI application is google search engine. The invention of AI has made human life much easier. AI is used for making smarter decisions in business or any other field. AI has improved the quality of product, efficient use of raw material, saved time ad has provided superior safety.

What is AI in finance?

Everyone is well known to the term 'Artificial Intelligence' and 'Finance'. But, have you ever thought of artificial intelligence in finance?

AI in finance is how we deal in monetary transactions. It helps to maintain cash, credit and investments accounts.it also stay updated with the real time changes ad then creates customized advice bas on new incoming technology. It not only saves human power but also detects and prevents frauds.

2. REVIEW OF LITERATURE

Kinjal Bhagyesh Patel, Asst. Professor, Dept of management. Vadodara institute of engineering. April 2018,

In her paper titled "Artificial intelligence in finance" have conducted the research with an aim to study AI and its pros and cons in finance. She has studied about the changes made in banking sector due to AI. The author finds that by 2020, AI will have its greatest impact in

both banking and financial sector. And it will also have a positive impact over the competitiveness. The author also concludes that AI has helped banking sector by providing services like smart wallet, personalized banking service, underwritings and many more.

3. OBJECTIVES

- i. To study about artificial intelligence.
- ii. To study about the advance technology used in finance.
- iii. To study its pros and cons.
- iv. To study how it has changed banking sector.

4. AI AND FINANCE

Time Saving: -

The biggest problem in banks is long queue. Applications like Chatbots solve the consumer issue easily and quickly. Now, people can ask anything and do all their bank related activities from the comfort of their homes.

Personalized Banking: -

AI based assistants through machine learning is helped to develop customized plans, offers and loan that vary from customer to customer according to their interest, past behavior and credit score.

Quick Resolution Time: -

AI has made the problem-solving time very quick. This saves both agents as well as customers' time. It is said that 'Chatbots can save at least 4 minutes of a customer service agents time'.

24 Hour Services: -

A customer requires bank help anytime in a a day. So, to solve thus issue AI has developed 24 hour services, which assures customer services that solves all queries and problem regardless of time.

Check A Clients Credit History: -

Nowadays AI finds that many clients fail to pay off their loans. So, to resolve this it predicts their future behavioral patterns.

Better Auditing: -

AI has replaced manual auditing that is prone to errors and fraud. Manual auditing can lead to missing file or data which can cause heavy losses to the bank or any financial sector. AI analyze each file, while machine learning easily identifies risky files and data.

5. DISADVANTAGES OF AI IN FINANCE

Expensive: -

The maintenance and production of AI is high. They are very complex machines. AI consists advanced software programs which require to be updated to meet the changes in technology. In case of critical failures, the procedures to reinstate the system and recover lost codes may require enormous time and cost.

Unemployment: -

The introduction of AI has raised the level of unemployment. Manual work is done through machines which give rise to unemployment. AI can effectively increase the unemployment rate. Study states that “Automation will displace between 400 and 800 million jobs by 2030”.

Lack of Creativity: -

In spite of having so many advantages, AI lacks in creativity. Being a machine, it cannot be creative or think by its own.

Cannot Replace Human Resources: -

Everyone is aware that machines are more efficient than human being. A financial sector cannot totally depend on machines as there is fear of cyber risk, frauds.

Doesn't Improve with Experience: -

Human being improves with growing age and experience. But this is not possible with machines. Rather they wear and tear with time. The system has to be updated time to time.

6. CONCLUSION

Artificial intelligence is now a technological advancement people need to adapt, but soon it will be normal necessity. AI not only make consumer life easy but also employee's life too. But it also lead to cyber risk, frauds and money laundering. AI driven automation helps to enhances operations, reduce manual errors and let the employees focus on core task. AI also provides personalized banking facilities to make banking experience easy and convenient. Its problem-solving time is less as compared to manual power. It keeps a proper record of cash book, purchase book, inventories. Its 24-hour services have proved to be beneficial for customer. But due to AI unemployment rate has increased. The maintenance charges of AI are very high. Apple acquired its virtual assistant SIRI at cost somewhere around \$200

million. Artificial intelligent is delivered in wrong hands it can create a harm to mankind, if an individual starts thinking destructively.

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A Study of Remote Working Trends: Boon or Bane Amidst COVID Crisis

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ABSTRACT

Remote working is a fast growing phenomenon that is being accepted as a part of the new normal amid the Covid 19 crisis. Traditional business structures were forced to adopt this structure that was previously only sought as an exception or privilege. The objective of the following research paper is to understand this long prevailing yet underutilized, until recently, area of work culture that is rapidly gaining prominence in the current post pandemic setting. Further, it delves into the advantages and disadvantages of remote working among employees. The research was conducted on the basis of questionnaire and personal interview. The paper further throws light on individual perception of remote working through qualitative analysis and its future trends with the aid of secondary research. Thus, helping to realise the acceptance and general perception of Remote working culture.

Keywords: *Remote working, Work from home, covid-19, pandemic.*

1. INTRODUCTION

In light of the COVID-19 pandemic there have been a large number of unprecedented changes in the business and employment sector. Wherein we can see various things happening all around, such as new techniques are being adopted, old techniques are being brought back with new outlooks, etc. Amid the chaos of the pandemic in order to keep things running and being open for business, companies have been training, recruiting, hiring and managing remote workers.

Remote working that had been a dormant feature in many companies suddenly gained importance, when the government imposed lockdown was issued that mandated non-frontline workers to stay at home. This was quickly put into practice, and the companies shifted their workforce to a work from home setting.

This culture was quickly adopted and soon turned from haphazard chaos to a blessing in disguise for companies who found this means of work productive and highly viable. There are companies that have already established that they prefer the working of remote models more than the traditional work structure that was prevalent pre-pandemic and have as a result made a decision to make the shift indefinite for the majority if not all of their employees. A number of new soft-skills criteria has also been tacked on to the list of requisites that companies are looking for at the time of hiring candidates for work, this includes focus, discipline, self-motivation, along with the skill to keep in touch and in communication with one's bosses and colleagues.

What is Remote Work?

It is a work culture that officially enables an employee the avenue to work offset from a traditional office setting. Remote working confers a work phenomenon wherein one does not need a specific place to work in a satisfactory manner and to yield good results.

Remote working cancels the extra aspect, that is, commuting to office every single day to work at a fixed desk, instead employees can work from home or whichever location that pleases them to do their assigned work to the best of their ability and thus achieve their set work aims.

In a remote working environment employees procure a level of freedom and flexibility that would have never been a possibility in a traditional work setting. They have the power to adjust their workload as per their own schedules and suitability such that they can maintain harmony between their professional and personal lives.

Who is A Remote Employee?

A remote employee could be anyone who is employed or works at an organisation but not necessarily in the traditional workplace provided by the company or in the company premises. Rather, this individual is free to work in whichever environment they seek, as long as the work target is achieved opportunely. Their workplace could be their homes, coworking joints, cafes, or even a tent halfway across the world.

2. EVOLUTION OF PERCEPTION OF REMOTE WORKING

Post Covid, going back to 'normal' has been put on a back burner, instead, the focus is towards adapting to the new normal at a fast pace seems to be the expected route to proceed.

Remote working as an avenue to work has been around for quite some time now, and there have been those who enjoyed the perks of it permanently or occasionally even pre-Covid, though it is an exceptional event.

Recently, we have been witnessing a potent rise in the remote working culture as a result of the situation that has forced organisations into a corner to adopt it more liberally. Another factor that has added to the rise of the remote work concept is the significant rise in technology and cloud-based softwares and apps, which allow for people across large distances to stay connected in terms of their data and work matter along with communication. It is an expectation that remote working culture as a permanent fixture in organisations is based on its acceptance by the current working population that largely comprises the Gen Z and Millennial population. These are the ones that favor the attitude of working to live instead of living to work.

The COVID-19 premise has pushed companies, employers to make the change towards adopting the remote working structure. Before, they were compelled to do so due to the situation remote working did not hold the most esteemed position in the minds of employers.

It was conceived to be a means to distracted, haphazard work, wherein the managers had limited means to track and keep a check on their employees' work.

Majority organizations were forced to shift their work culture to that of remote working thanks to the pandemic outbreak that led to the establishment of social distancing measures in offices and other public spaces. But if we were to take a look at the past and observe one might realize that remote workers have had a bad reputation. This was majorly because many employers believed their workforce would be too easily distracted at home, where their managers couldn't keep an eye on their direct reports.

This naturally leads one to believe that before remote working was basically a means to an end it was not a highly sought after culture of working, in fact it was quite sparse. Work-from-home was an arrangement that was offered to few and far between either as an exception, special arrangement, or as per one's need based situations. Today, seeing and realising its benefits along with the constant advancements in online communication and technology business are approaching remote working with a new outlook. There have been businesses globally who are considering making a permanent shift towards reeling the traditional work model to that of remote working indefinitely even post pandemic.

3. BENEFITS TO REMOTE WORKING

1. Anyplace, anytime work.

Employees are not restricted to working the traditional 9-5 hours, 7 days a week working structure. They are not held back or burdened to travel long distances due to the geographic location of their workplace. Due to the advancements in telecommunication the requirement of a permanent time and place has become non-mandatory.

2. Day to day travel is reduced.

It eradicates the need to make the daily commute to office. The employee is free to start their day in a calm and relaxed manner without facing the mayhem of public transport or peak-time traffic.

3. Flexibility, work hours and pace.

The employee becomes the master of their own time and is able to manage his/her schedule as were their own requirements that suit them best. Thus, allowing them to work at their own pace yielding better and more motivated results. It allows them to maintain work life balance, and flexibility offers them significant freedom to work suitably with self induced deadlines to get the tasks done on time.

4. Cost friendly.

Remote working allows for one to add to their savings. Such that, a lot of money that would otherwise be used for transportation, food, petrol, clothing or cosmetics are saved.

5. Ensures Healthy Wellbeing.

Remote workers are the managers of their own time and are hence able to carve out space to incorporate physical exercise to their daily routines, for which they otherwise would not have

had time for. Remote working structure also ensures that you are miles away from a sick co-worker. This also works in case of the opposite side, wherein you are the sick worker that is miles away, giving you the perfect opportunity to take care of your health in a safe space whilst being productive.

6. Less Distractions.

Remote working creates a personal space that is free of interruption and involuntary external disturbances of socialization and office chatter. One can devote their entire focus to their work and get their work done in peace.

4. SHORTCOMINGS TO REMOTE WORKING

1. Self-discipline is a requisite.

In some cases the chaotic work environment could actually be a stimulating and motivating factor to work. When that is eliminated one has to rely on their own dedication and self-control to remain focused on work, this can be a difficult feat to achieve. There are plenty of distractions at home or any external location that can shift one's focus quite easily. Hence, in such cases self-discipline is paramount, one has to be rigid towards their own task and ensure to get it done in a timely and structured manner.

2. Workplace socialization is limited or at a standstill

Remote workers are secluded and often work in isolation. This limits their corporeal social interaction with co-workers and even clients. Yes, technological conversations are active but it eliminates the daily meeting, lunches, gatherings, and gossip sessions which are attributes that add to the office going experience.

3. Passed over promotion opportunity.

Remote working in the long term can make one invisible or faceless, when compared to the ones who are present in the office and make their presence known daily. Here, there is high scope that remote workers might be overlooked or passed over when it comes to promotions or advancement opportunities.

4. Symbiotic with technology.

There comes a constant and irreplaceable dependency to technology, seeing as remote workers have to be in constant contact with the main office they have to be available with their emails, smartphones, laptops and other means of linkages. There also comes a need to be available and to keep up to date on technological adoptions, advancements and trends.

5. No Demarcation between personal and professional life.

Work/life balance could become a joke if not managed properly. Work can feed into one's free time and take over. Remote workers are sometimes expected to be on-call 24/7 and thus can be exploited in the name of work from home by their employers. Hence clear distinctions have to be established early on to prevent this from happening.

5. FINDINGS

A qualitative interview among selected individuals was conducted to scrape out their understanding and take-away on the remote working culture.

Some of the questions and answers received were as follows:

Q. Do you find Work from home to be an advantage or a disadvantage?

“It depends on the nature of work. Instead there is a decrease in productivity decreases. Say, in case of daily work from home, be it men or women, now in this present situation can't concentrate more on job due to presence of husband / wife , children, family members. Their work priorities get diversified and thus productivity gets decreased.”

Q. Has it been useful for your business? How has increased or decreased productivity?

“The benefit is that employees gain a hassle free work space as there is no commuting cost. No more spending on fuel, no sharing of office space, and no spread of sickness in covid times. But, there are homely distractions when eliminated can overcome the performance hindrances. While work life balance can help to combat this crisis situation.”

6. FUTURE OF REMOTE WORKING

According to a survey from Enterprise Technology Research (ETR), the percentage of employees working indefinitely from home is expected to double in the year 2021. Gartner CFO Survey has discovered that over two-thirds (74%) organisations are in the works of perpetually shifting employees to work remotely post the pandemic.

The Covid-19 pandemic has shaken the work culture of organisations and job market significantly. There has been a paradigm shift of sorts wherein companies have chosen to adopt and keep the remote working culture as a permanent change post 2020's temporary approach to adjusting with the pandemic. This means to sustain in the times of social distancing has turned into a blessing in disguise for a lot of companies who have profited from this work structure. According to an article in Forbes, it is believed that by 2025 close to 70% of the workforce will make the shift towards working remotely for a majority of minimum five days a month. 2020 plants the bud of remote working in the minds of companies globally, 2021 might see the trend of working remotely bloom and rise rapidly.

Major tier one companies have already started to put this idea into practise. Twitter's San Francisco based office has already put it out there that they could be opting to make the shift of operating remotely on a permanent basis. Square, also headed by Twitters Jack Dorsey, has chosen to do the same route, of remote work culture, even after offices reopen.

7. RECOMMENDATION

There are a few recommendations that would be suitable from the remote work culture. These are:

- Take frequent refreshment breaks,
- Have a ready to focus on priority task attitude,
- Ensure to build and sustain relationships which need closeness and time,
- Reset schedule as needed
- Create a to-do list to keep on top of things.

Thus, ensuring a relishing flexibility and productive environment to work effectively. As a result, one will earn a win-win situation for a healthier lifestyle. Modern comforts of home with a dip in productivity can help maintain work life balance correspondingly.

8. CONCLUSION

The following research paper helps in understanding the remote working culture and further establish its benefits and limitations. It also throws light on its evolution and prospect as a means of surviving the pandemic as well as a positive change that is here to stay for good.

Major tech based companies including Facebook and Twitter have already embraced the remote working model on an indefinite basis. It is expected that many others will join the bandwagon seeing as the pros of remote working far exceed its cons, especially for employers and companies. It is being witnessed that remote working is evolving from a measure that was used as means to survival is rapidly turning into a welcome norm for many organisations.

While major tech companies seem ready to accept this change in stride, there still remains a lot of uncertainty about which side will rise on the top. Adaptability and operating measures to be adopted by companies would be paramount towards establishing their sustaining themselves in the future market. As we have seen remote working comes with its own set of challenges and shortcoming, the decision now into realise if these are worth the positives that could be reaped off of it.

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A Study on Customer's Opinion About Buying Health Insurance Plan Online During Covid-19 Pandemic

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ABSTRACT

The basic necessity of human being is health . The paper examines the Importance of Health insurance in the customer's mind and customers opinion about buying Health insurance policies online during covid-19 pandemic .The study has concluded that Online sale of health insurance witnessed a higher growth and majority of people started buying health insurance policies during covid-19 online.

Keywords: Health, Insurance, Products, Customer's Opinion, Covid-19.

1. INTRODUCTION

Insurance has become a highly specialised business with the introduction of specialisation in all the branches of commerce . The loss of human life and property caused by a particular risk is undertaken in exchange for a price fixed in advance . Nowadays Health treatment is very costly .Health insurance is the answer to get rid of medical worries . 40 % of the people hospitalized have to borrow money or sell assets to cover their medical expenses according to the survey by NSSO(National Sample Survey Organization) . Incidence of increasing diseases such as diabetics, obesity,hypertension ,cardiac diseases to name a few , emphasize the need for health insurance .

2. OBJECTIVES OF THE STUDY

1. To understand importance of health insurance
2. To study the consumer behavior towards buying health insurance plan online during Covid -19 pandemic

3. REVIEW OF LITERATURE

1) Harinder Singh gill and Pooja Kansra-“Prospective growth of health insurance in India :Trends and challenges” , Pacific Business Review International Volume 7,issue,july 2014 ,they have analyzed the health insurance growth in India, effect on number of policies to number of claims, number of claims state wise and disease wise claims using statistical tools. It is necessary that public and private health insurance companies should generate innovative ideas to improve awareness among customers regarding health insurance . In the way of health insurance there are huge opportunities despite of all the challenges faced by insurance sector . Making use of IT tools, new distribution method , marketing strategies to create

awareness about health insurance and high commission on sale of health insurance can be used to widen the scope of health insurance industry for a longer period .

2) Navneet Dubey - “ Health insurance online sale spurts up to 30%, offline sales fall due to coronavirus impact” , The Economic Times e paper , Apr 11, 2020, He has analyzed that the demand for health insurance policies has seen a huge spurt during COVID-19 Pandemic . It seems that with the increase in number of Covid 19 cases in India ,the people have got more awareness about the importance of having Health Insurance.The Head of Health insurance - policybazaar.com Amit Chhabra witnessed a growth of 20-30 % in 25 days in a span of March 6 to March 31 as compared to February month. “More precisely the policies issued in March were approximately 45000 as compared to approximately 36000 issued in January and February .It is observed that Covid –19 insurance policies queries have increased but from sales perspective , Sale of health insurance plan is much as compared to Covid -19 plans .

4. IMPORTANCE OF HEALTH INSURANCE

Health insurance can be important for the following reasons :

- 1.It is safe investment option and Means of savings
2. For the benefit of insured it closely connects hospitals, insurance companies , TPAs and policyholders.
- 3.Security is provided to human life which is of prime importance to any individual .
4. It provides Quality access to healthcare
5. It is a safe investment option
6. Helps in minimization of unforeseen losses
7. Human life which is of prime importance to any individual gets security .
8. Contributes towards leading a stress free life .
9. Contributes in reduction of tax liabilities and act as an tax saving instrument .
10. Solution for uncertainties and risk that are prevalent and ever pervading in human life.

5. TYPES OF HEALTH INSURANCE

1.Family Floater Health Insurance :

The coverage is offered to all the family members, including spouse, children, parents, and other dependant members at a single premium in Family Floater insurance . Family floater plan is a good option if you have small kids or have family members who do not have any serious health issues as the chances of exhausting your sum assured as lesser . The policy will cover all the members of a the family under single sum assured . If elderly members or someone with severe health conditions then family floater plan might not work out. In that case individual health plan would be a better option . On the basis of age of the eldest family member the premium is decided.

2.Critical Illness Insurance: Threatening diseases such as cancer ,kidney failure, paralysis, stroke etc is covered under critical illness policy . Such conditions might require multiple hospital visits over a long period of time . At the time of policy purchase the total number of illnesses that are covered are specified . Compensation for loss of income is offered in case of diagnosis of any life threatening health conditions .

3.Hospital Daily Cash Benefit Plans:

A lump sum amount of each day of your hospitalization is covered under hospital daily cash benefit plan . Additional expenses can be insured that are not covered by their basic health insurance plan . Daily hospital cash plan can be taken as a rider or as a standalone cover .

4.Senior Citizen Health Insurance Plans :

The people above the age of 60 years get the benefit of Senior Citizen Health insurance plan . Extensive coverage benefits usually makes the premium higher . To ensure adequate medical coverage in their post retirement years it is better to buy a senior citizen plan for your elderly parents . You can also avail tax benefits on the premium paid under Section 80D.

5.Group Health Insurance :

Employer or a company basically provides Group Health Insurance to its employees. The policy features are also not that extensive and is offered for a limited sum insured . Other family members can get coverage by paying an extra premium .Once the employee will leave the organization the policy will get terminated .Buying a separate health insurance plan is better than to rely on your group or corporate insurance plan.

6.Individual Health Insurance :

Coverage on an individual basis is offered in individual health plan . Other members like children, parents , spouses can be added by paying an extra premium . Every individual's age , medical history and respective sum insured will decide the amount of premium to be charged . Single individuals can buy an individual plan for yourself and your spouse and enjoy the insured sum amount on individual basis .The premium for individual insurance is higher than the family floater plan

6. RESEARCH METHODOLOGY

Sample size : Sample size for this was 50 people from Mumbai city .

Data collection Methods : Data was collected primary sources Primary data is collected through questionnaire method:- Detailed questionnaire was prepared for the customers opinion on buying health insurance plan online during covid -19 pandemic .

7. DATA ANALYSIS AND INTERPRETATION

Customer's opinion on buying health insurance plan online:-

76% of the respondent said that the have purchased the health insurance plan online during covid 19 pandemic and 24% said that they did not prefer to buy health insurance plan online due to lack of technological knowledge and security reasons.

(Graphical presentation is shown in figure 1)

Total Customers	50	100%
YES	38	76%
NO	12	24%

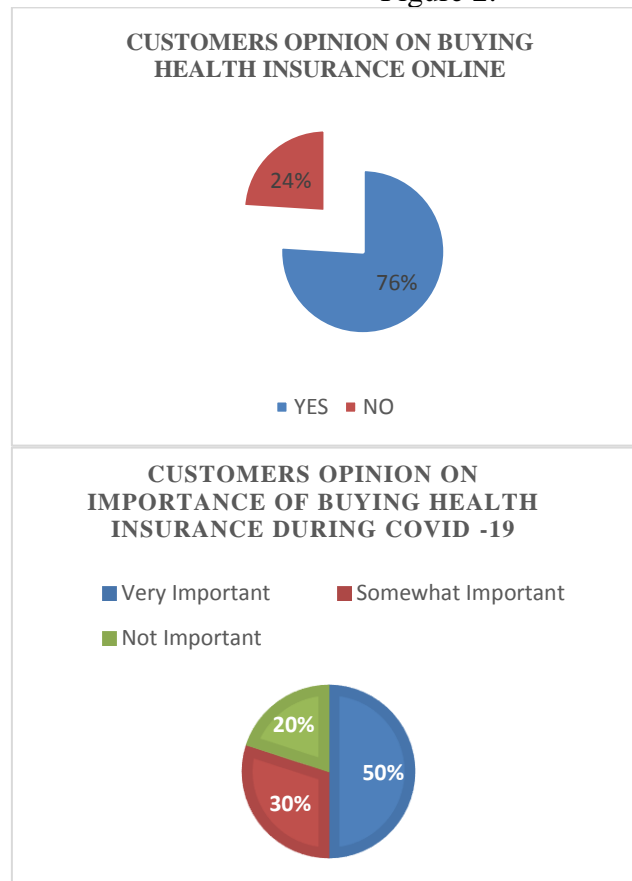
Customer's opinion on importance of buying Health Insurance plan during Covid-19 pandemic:-

50% of the respondents said that buying health insurance is very important . The pandemic has definitely accelerated awareness about importance of health insurance policy.30% of respondents said that it is somewhat important to buy health insurance plan to provide a security to family members. Whereas 20% of the respondents said that it is not important to buy health insurance plans.

Total Customers	50	100%
Very Important	25	50%
Somewhat Important	15	30%
Not Important	10	20%

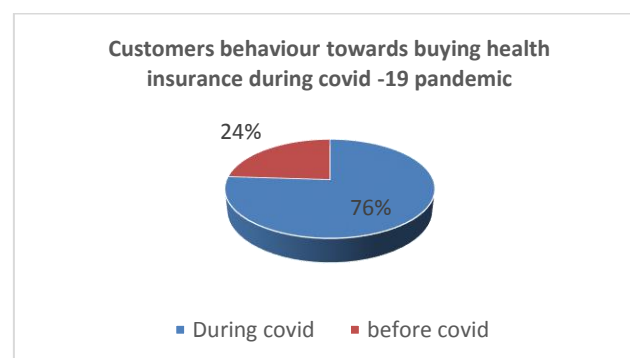
Figure 1:

Figure 2:



Majority of the respondents i.e 76% said that they felt the need to buy Health Insurance policies online as a need against the uncertainty during the Covid -19 pandemic .With the increase in the number of Covid -19 cases the sale of health insurance saw a huge spurt . Whereas 24% said that they don't prefer to buy health insurance policy due to cash crunch ,lack of job security and digitalization.

Figure 3 :



8. FINDINGS

The study showed that majority of the people are more aware about health insurance in the wake of Coronavirus pandemic . Health Insurance has now become a product that consumers likely to buy without the need for a big sales push . Around 65% of the people said that health insurance can play an important role in covering the hospitalization cost, followed by medical test, medicines and quarantine cost. 35% of the people said that they don't prefer to buy health insurance . Before the Covid -19 pandemic only few people were interested in buying health insurance to cover the new age diseases but now majority of them consider health insurance as a necessity

9. CONCLUSIONS

As per analysis, it is observed that demand for health insurance policies has seen a huge spurt during Covid-19 pandemic . Generally every year in the month of March the health insurance witnesses a higher growth in sale of health insurance policies because people prefer to buy health insurance policy to save tax. Covid -19 has impacted health insurance growth . Online sale of health insurance witnessed a higher growth in sale of health insurance .

Scope for future Research :Further, the researcher can compare the customer's opinion on health insurance plans provided by different insurance companies .

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A study on the growth of Veganism in India

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ABSTRACT

Vegan diet is a life style wherever one restricts to solely plant based food. They abstain themselves not simply from meat however from dairy and other product obtained from the other living creature. In recent times there has been a major rise within the individuals following veganism largely because of influence from the western world or simply a health fad. Additional individuals have started changing themselves from non-vegetarians or vegetarians to vegans. Some individuals follow veganism for spiritual benefits too, and veganism has been quite simple in recent times. The factors conducive to the expansion vary from animal welfare, climate change, health considerations, social media influences or ethical reasons. We've witnessed abundant availability of vegan substitutes creating it much easier to be a vegan particularly in a metropolitan town. Vegans in India face problems as India is obsessed with dairy and its rather difficult to convince Indians why an individual has set to abstain from dairy. The paper aims to study and explore the elements of the factors that have lead a niche community's growth in a vegetarian nation.

Keywords: *Vegan, Veganism, Diet, Lifestyle, Food, Health, Animal welfare*

1. INTRODUCTION

Veganism is a way of living which seeks to exclude, as far as is possible and practicable, all forms of exploitation of, and cruelty to, animals for food, clothing, or any other purpose.

Vegetarian diets eliminate meat and fish, but commonly allow eggs and dairy products. Veganism takes this idea to the next level, cutting out every item of animal origin. So vegans avoid any food made with animal flesh, dairy products, eggs, or honey. Veganism is currently defined as a way of living that attempts to exclude all forms of animal exploitation and cruelty, be it from food, clothing, or any other purpose. The word vegan was initially outlined as a diet freed from animal-based foods, Nowadays, the word's meaning is usually extended to refer to non-food products—such as clothing, cosmetics, and medication that are made without animal-derived substances. Vegans additionally object to exploitive uses of animals, from animal testing to rodeos to zoos and dolphin shows. you'll be able to use the word vegan to spot a sandwich, a car seat, a shampoo, or an individual. Given the word's flexibility, seeking a correct and uncontested definition inevitably produces disagreement. There has been a drastic increase in the number of individuals adopting veganism all round the world and in India.

India has always been a vegetarian country, there's been an increase within the Indian Vegans since 2017 and is predicted to grow additional by 2025. a major quantity of Indians has already tailored the vegan lifestyle. There are numerous factors that have contributed to the expansion of Veganism. These factors embrace Health advantages, Animal welfare, increasing awareness of environmental impact of animal Agriculture, impact of social media and celebrities.

2. OBJECTIVE

1. To Study why Indians are adopting to vegan lifestyle.
2. To understand the reasons that influenced people to turn vegan.
3. To gain an understanding of the benefits and limitations of being a vegan in a vegetarian country like India.

3. LITERATURE REVIEW

Veganism is an all-encompassing way of life, a philosophy which aims to reject mainstream cranium ideology (Joy 2010) with a “renunciation of anthroparchal socialisation” (Cole and Stewart 2014, p. 151).

Veganism is a philosophy in which adherents take no part in the exploitation of animals. Veganism has always taken the “suffering and slaughter of animals [as] the starting point” (de Boo 2014, p. 6) and fighting against the exploitation of animals remains a principle motivation for veganism. However, the identity and ideology of veganism has expanded in the mainstream to no longer being exclusively concerned with animal advocacy.

Health is one of the first aspects that people look at when deciding to become a vegan. Common health reasons are weight, cholesterol and high blood pressure. Secondly, environmental factors also play a strong role in becoming a vegan. Food production affects the environment based upon the agriculture method used (Leitzmann, 2003). “Research shows that vegan diets are well suited to protect the environment, to reduce pollution, and to minimize global climate changes” (Leitzmann, 2003, p. 657S).

There are many reasons behind the veganism: moral (the injustice towards animal, animal suffering), health/physiological concern (human dental and digestive system are unsuitable for meat), food production issue (meat industry has bad effects on the environment), religious/spiritual (a mean to purify the soul/ control one’s appetites and sexuality, Christian’s encouragement to stay vegan in Past Over period – but not compulsory). In term of the attitude toward veganism, there are plenty of articles which debate on how a vegan diet can be healthy, how environment-friendly, animal-friendly and supporting for living equality. (Beezhold, Radnitz, McGrath, & Feldman, 2018; nutriciously, 2017; Ofei, 2017; Scott, 2017; The Vegan Society, n.d.).

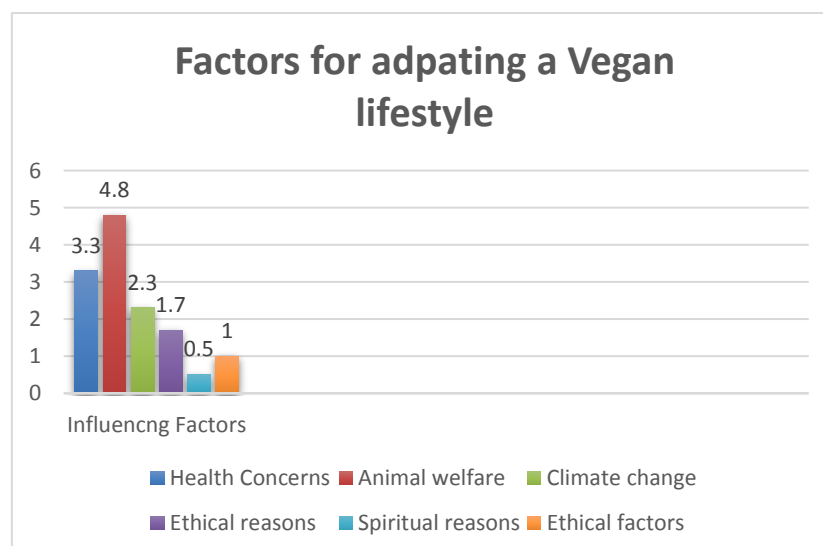
4. RESEARCH METHODOLOGY

The Research Methodology for this study is Primary Research. The sample size is 67, who represent the population of Indian vegans. The main subjects are young Indians (18 – 35 years old) residing in Mumbai, India. The research method is survey, semi-structured interview, non-experimental observation and narrative background story to provide a more comprehensive perspective about the consumer experience. The sample size representing the population of vegans in our country has been chosen by convenience method.

5. DATA ANALYSIS

Majority vegans believe they are gaining something in life by abstaining from meat and dairy. They do not feel they are losing out on something or sacrificing something in their life. The data received from our sample size conveys that majority of the vegans have adapted this lifestyle out of concern and welfare of animals. However, many of them have adopted veganism simply for health concerns and out of a desire to be healthy and fit. They believe the human body is meant for consumption of plants only and no other living beings. Majority of them confess they feel better lighter and healthier than before. Many have found to cure obesity, diabetes, blood pressure, PCOS, PCOD, immune disorder and many more.

It has also been seen that there is a spreading awareness about climate change. The animal husbandry and dairy industry are one of the major contributors of climate change as deforestation for these industries triggers global warming. Which has induced people to do their small bit for the society. Documentaries on animal cruelty and climate change have been a major agent in spreading awareness.



Analysis of my interview and survey demonstrate interest in animal welfare and adapting veganism:

“I want to live a better moral life without causing harm to animals and ensure animals live a healthy and cruelty free life”

“I couldn't turn my back to the realities of Dairy Industry I saw in certain documentaries. After understanding the process and learning about the abuse and cruelty involved, I couldn't consume a single drop of dairy milk”

“Watching and reading more about the animal agriculture only made me realise how much good I was doing for my body if I turned vegan and that I was not contributing to climate change”

“When I realised that the top most reason for pollution was animal agriculture it just shocked me because the stats and facts were unknown.”

“I feel all animals deserve to be liberated from sufferings caused by humans. I felt guilty as I consumed animal products in my life.”

“I turned vegan after watching PETA videos.”

“I ran into footages taken in dairy farms in India and was really shocked to know that cows are slaughtered after leaving the farm.”

Analysis of my interview and survey demonstrate peoples interest in improving their health was also a major factor of adapting the lifestyle. Many of my participants have cured major health problems by going vegan. Being a Vegan was difficult a decade ago, as the concept was much familiar back then. Today it is easier being a vegan due to the widespread awareness of the concept and the availability of substitutes.

6. FINDINGS:

6.1 Ethics

Ethical vegans powerfully believe that each one creatures have the right to life and freedom. Therefore, they oppose ending a living being’s life merely to consume its flesh, drink its milk, or wear its skin — particularly as a result of alternatives are out there. Ethical vegans also are opposed to the psychological and physical stress that animals could endure as a results of modern farming practices.

Many vegans speak out against the farming industry’s practices, like the grinding of live male chicks by the egg business or the force-feeding of ducks and geese for the *foie gras* market. ethical vegans could demonstrate their opposition by complaintive, raising awareness, and selecting products that don’t involve animal agriculture.

6.2 Health

Some individuals opt for veganism for its potential health effects. It's been ascertained that discarding dairy has multiple benefits on the body. Plant-based diets could scale back your risk of cardiopathy, kind two polygenic disease, cancer, and premature death. Lowering your intake of animal products could likewise scale back your risk of Alzheimer's illness or dying from cancer. (6Trusted supply, 7Trusted supply, 8Trusted supply, 9Trusted supply, 10Trusted Source). Some additionally opt for veganism to avoid the aspect effects joined to the antibiotics and hormones utilized in modern animal agriculture. Finally, studies systematically link vegan diets to a lower weight and body mass index (BMI). Some individuals could opt for these diets to lose weight.

6.3 Environment

People may additionally opt to avoid animal produce attributable to the environmental impact of animal agriculture. A 2010 United Nations (UN) report argued that these products usually need additional resources and cause higher gas emissions than plant-based choices. These chemicals are thought-about the 3 principal greenhouse gasses concerned in temperature change.

Animal agriculture drives eighteen of world greenhouse emissions – and sixty-three of India's total gas emissions from agriculture comes from eutherian farming. additional data concerning the water and land-intensiveness of eutherian farming has more raised the alarm amongst Indian shoppers, particularly as India is one in all the seventeen countries most in danger of facing acute water shortages thanks to temperature change. Additionally, animal agriculture tends to be a water-intensive method. Animal agriculture can even result in deforestation once forests areas are burned for cropland or pasture. This environment destruction is believed to contribute to the extinction of assorted animal species.

Today there exists numerous documentaries on on-line streaming platforms that have bought the dark aspect of animal husbandry and dairy business on the forefront. Several of my participants have aforesaid that watching these documentaries are a life changing experience. Some additionally claim that these documentaries induced them adapt a vegan lifestyle. One will fine documentaries named *The Game Changers*, *Cowspiracy*, *What the health*, *Okja* and lots of additional.

6.4 The factors that result in growth of Vegans in India

India could be a country with a protracted history of vegetarian diet, but have undergone urbanisation and population growth. There has been a continuing Westernization and so the demand for animal protein has been on the increase. However, Indian consumers currently appear to be creating the shift towards plant-based diets.

Consumers in India eat way less meat than alternative countries: Despite India being related to diet, the bulk of Indians 71% do consume meat. whereas that's the case, most Indians don't eat tons of meat compared to the common American consumer, which can create the plant-based transition that much easier. Whereas per capita consumption of meat within the U.S.A. stands at around twenty-five kilograms, India's per capita consumption of meat is four kilograms, creating it the second lowest meat consuming country within the world. Majority of the population follows Hinduism that utterly eliminates the consumption of beef altogether. the consumption of red meat in India is extremely low as compared to the remainder of the globe.

Easy Veganisation of Indian food: Cereals, legumes, grains, pulses, sprouts and vegetables, all of those ingredients are usually found in traditional Indian dishes and most Indians have these in their kitchen pantry. However, they're additionally staples in vegan diets and supply a good supply of protein and fibre. several Indian dishes tend to already be plant-based too, like our everyday staple food of *roti sabji dal & rice*. it's easy straightforward easy a basic Indian dish vegan by avoiding ingredients like paneer, butter or cream and work it with vegan alternatives like tofu, coconut milk etc.

Easy availableness of vegan substitutes: Numerous Indian food corporations are creating vegan substitutes for cooking that has created vegan cooking easy. consumers will realize vegan plant based milk, cheese, and additionally plant based proteins. In metropolitan cities like Mumbai, Delhi, Bengaluru and Pune there are cafes and restaurants having a frenzied vegan menu.

India's initial plant-based chicken start-up GoodDot has many locations across the country. The chain provides all-vegan versions of classic Indian dishes still as international nourishment fare, with several dishes already reaching value parity with its non-vegan competitors, like KFC and McDonalds. Another home-grown plant-based complete Goodmylk, on the other hand, is additionally creating vegan food accessible and reasonable to Indian shoppers by making a line of dairy-free milk, curd, butter and salad dressing. With affordability and accessibility remaining the largest obstacle preventing Indian shoppers from creating sustainable purchasing choices, food techs delivering these solutions can help drive mass change.

Awareness thanks to social media & Internet: These days you'll realize in numerous vegan recipes on the web & social media. Bloggers and social media influencers promoting veganism has additionally influenced the Indian youth. These vegans are building community by connecting with one another over Facebook groups and share life experiences to push veganism. Majority of my participants enjoy following these social media influencers, watching their posts, videos and reading blogs.

6.5 Struggles of Indian Vegans:

One of my participants stated, “*People think of it as a Western diet or a diet fad.*”

Substitutes: The availability of vegan substitutes in Indian markets is very low. expensive and not feasible to the middle class man. These products are usually available in big food retail stores. It’s usually not available at your local *kirana* store which makes the accessibility a problem. While their availability in supermarkets and on the Internet is usually limited to metropolises, it has allowed vegans to explore a variety of options.

Eating out: It is stressful as people are not aware about veganism. They don’t understand why you aren’t fine with just a little bit of cream in your food. Vegans have to be very specific in giving instructions while ordering food in a restaurant. There is a lack of understanding amongst people here which makes socialising with non-vegans a trouble

India’s dairy obsession: From breakfast to dinner, you’d find milk in your morning tea, eat some form of curd for lunch, nibble on cheeses and pour cream in your *daal*. Mothers swear by a glass of milk a day for its numerous benefits and it almost seems impossible for North Indians to avoid ghee, a clarified butter made from milk fats. The dairy culture exists since eternity. “We worship Lord Krishna, a *Gwala* (milk man)” Our deities too are offered raw milk and milk products like ghee or sweets. Indian families tend to pressurise these vegans to consumer dairy as Indian culture has predominantly been a dairy consuming one No one can be coerced, but perceptions could be altered by inciting dialogues.

6.6 Suggestions:

The vegan community in India is a niche community is slowly and gradually expanding. We have witnessed a growth of vegans since a decade as it is much easier being a vegan today than it was in 2005. The research suggests why Indians have been adapting this rather western concept of veganism. Nonetheless, the rise of veganism in India, more than anything, would rest upon debunking myths about the inaccessibility of this lifestyle.

7. CONCLUSIONS

“Veganism faces a challenge in terms of changing people’s perceptions.” Vegan activists often hear things like, ‘It’s too elitist’, ‘It’s not my cup of tea’, ‘What about the poor farmer whose livelihood is dependent on selling milk?’, ‘I love milk’, ‘I love cheese’, and so many more things.” the concept eventually boils down to a matter of choice. the appeal of a plant-based diet could get another substantial spike in the near future. With or without such a trigger, a major shift in the way Indians think about the food they eat and how it is produced is underway – driven by an increasingly networked, savvy millennial generation who realise that the certainties of the world they are growing up in are deteriorating fast. Veganism is no longer niche or difficult and, as industrial agriculture bends to adapt to consumer demand and its own crisis of sustainability, it is only going to get more accessible – and more popular.

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A study on the Perception of Learners toward Online and Traditional Learning

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ABSTRACT

Learning is a lot more than remembrance and data review. Profound and dependable learning includes understanding, relating thoughts and making associations among earlier and new information, independent and basic reasoning and capacity to move information to new and different contexts. Traditional learning involves the teacher who communicates in-person with a group of students in a brick-and-mortar facility. This method of learning typically involves students gathering in physical classrooms during a certain timeframe with the purpose of learning about specific topics or to gain specific hands-on training and experience. Online learning takes place over the internet. It is a form of distance learning. It's interchangeable with the term e-learning. A Learning Management System typically stores the training content, which is accessible anywhere and anytime. Research study tries to understand perception of learners toward online and traditional learning. Study pointed out that, both the learning methods has its own advantages and limitations. Information was collected from undergraduate and graduate students. During this pandemic online teaching and learning was very much helpful. Respondents pointed out that none of the method is superior or inferior because of its peculiar characteristics. Finally, it was concluded that, blended learning can be used instead of only traditional or online. Blended learning will be able to fulfil requirements of diverse learners and will be more effective.

Keywords: *Traditional Learning, Online Learning, Blended Learning, Learners, Understudy*

1. INTRODUCTION

Brick and mortar are the traditional way to attend college, with students coming to campus and attending class in physical classrooms. Being as yet the most predominant type of seeking after an instruction, physical education permit understudies to interact with each other and examine with educators face-to-face, this is the thing that keeps this type of customary learning still so much in demand, as understudies can speak with others or pose inquiries by and by to the instructor. They feel more mindful with respect to their tests, towards each deadline that comes their way and focus on participation.

This sort of college lifestyle doesn't exactly measure up for the mentality of some different understudies. Participation, area, absence of adaptability and campus life are actually the segments that they find upsetting; along these lines, they decide to pull out. They realize that them being late or missing is something that can be held against them later on in tests, or on the other hand possibly the timetable of lecture doesn't consent to their low maintenance work

and makes their participation in the class outlandish. Fortunately, technology in education made different choices accessible to them.

Web based learning is known as the instruction that happens over the Internet. Regularly alluded to as "eLearning", or "distance learning" – web-based learning includes the umbrella term for any learning that happens across distance and not in a conventional study hall. Colleges these days use LMS (Learning Management Systems, for example, Moodle, Blackboard, or similar software as a replacement for classes. Assignments are submitted on the web; conversations are in a discussion design and emailing teachers is expeditious. This incredible learning technique joins comfort, more prominent adaptability, and more noteworthy availability. Lessons can be finished around your timetable without venturing out from home or moving relying upon the downpour, day off, daylight.

Indeed, even the expenses are more limited as most online projects cost not as much as brick and mortar. That is on the grounds that classroom and board, parking, books and attendance fees are not necessary. Online learning has many advantages like flexibility, no need to commute, customized learning experience, a wide selection of courses, resources are available from anywhere and everywhere, time and cost effective etc. Still, students get the same benefits and level of knowledge as you would from traditional classrooms. Some of the cons of online programs may include an absence of determination, low consistency standards and less social cooperation. This is most likely the reason why fewer degree choices are offered online than through traditional learning.

Distance education permits admittance to classes at whatever point and any place you need. The timetable is adaptable so the understudy can make an individual report plan considering their requirements. There's no compelling reason to quit any pretence of anything in view of an absence of time. There's no need to commute in vain. The understudy can make a comfortable spot in their homes to focus. There's no requirement for a study hall any longer. It's in our grasp to reproduce the atmosphere to concentrate in harmony and without interruptions. More often than not, the exercises are taught in little gatherings and on an individual level. This technique, increasingly more famous consistently, permits the educator to become acquainted with the ethics and issues of their understudies and make the most out of the classes. This is a path for the understudies to set their learning speed and discover a space to cooperate straightforwardly and unreservedly with the coach.

Internet learning stages offer a wide and different number of courses. From college to secondary school, there's a course for everybody. Students can even get a degree without venturing foot on a university campus. Online instruction additionally checks with exceptionally different and helpful strategies to address the issues of each sort of understudy. The educational assets of the exercises are accessible from at whatever point and any place you need. The computerized design permits admittance to them at whatever point its important. In customary education, the understudy should be available in the classroom for each exercise. So, they need to commute from one place to the other and that is time and cost consuming. In online education, these costs vanish and there's no compelling reason to squander assets.

Online education is an effective and underestimated elective that permits the understudy to learn at their own speed. It likewise offers adaptability to combine studies and individual life. All of this from the commodity of home. You can even learn while going around the planet without giving up your education. Besides, it saves you time and money. There's no need to pay for transportation, the courses will in general be more affordable, and geographic hindrances don't exist.

There are understudies that without a predetermined structure struggle figuring out how to study. Self-control can be instructed, yet a few understudies as of now have it normally. Online study demands a compromise with the tasks. The hardware you need is a PC with a webcam, earphones and, a decent internet connection. In the event that you don't have one of these, you should procure it. Not all disciplines can be taught online. A couple of subjects, generally the ones that require practice, are better face to face. Be that as it may, there's a method to join both to accomplish an ideal outcome. this can occur if the picked spot to examine isn't satisfactory. It's vitally important to have a proper space a long way from any possible interruption. The virtual climate isn't sufficient to keep up the full convergence of the understudy.

Customary education once in a while causes the understudy to feel less forlorn. The understudy may feel like they are not confronting intellectual difficulties alone and can even form more confidence. Conventional education, by and large, takes into consideration group tasks and understudy association. Thus, they can gain from one another and share questions and concerns. These social ties can assist with concocting new ideas and stimulate creativity. Students who lack self-discipline value a study plan that offers stability and is easy to follow. Customary education powers the understudy to attend the lessons and to examine when required.

Certain limitations are, schedule stiffness as there's no flexibility to create a personal calendar in order to combine studies and personal or work life. Commuting demands an economic expense. Furthermore, If the classroom is far, time is additionally a factor to consider. You need to choose whether the outing is justified, or not. Loss of individualization in a large group of students because it's hard for a teacher to have a customized study plan fit to the needs of each individual in the group. Conventional education is more restricted with regards to instructive arrangements. Sometimes pictures, videos or forums aren't accessible 24/7. This element may restrict the learning and prevent a decent study plan.

Traditional education is still coming strong. It is a very efficient and solid option. All the more critically, it gives understudies a decent report plan. What's more, let's face it, in some cases it's difficult to give up the old habits and start a totally different daily schedule unexpectedly. Eventually, the decision is in learner's hands. It is essential to ponder what you need and what you need from your education. Learners can ask themselves what is more significant for them and settle on a choice.

2. OBJECTIVES OF THE STUDY

1. To study about the benefits of traditional and online learning.
2. To understand the preference of learners for traditional and online learning.
3. To assess effectiveness of online and traditional learning.

3. LITERATURE REVIEW

In this study researchers got to know that both Learning technique have its own advantage and disadvantages. Some characteristics are very good advantage for one learning method, and some are not. It is concluded that it is better to combine these two methods like mixing learning method and using that in necessary place as well as time will provide higher

affective among higher education and it will overcome of all drawbacks from both methods, eventually give highly effective learning process for higher education students. (M.S.S. Rajeeth& others, 2019)

This study addresses the effectiveness of online education. For most of the research on the effectiveness of online education, the result has been the same, online education is as affective as traditional classroom education. Studies even conclude that online education is more effective than traditional classroom education. Online education is effective and overcomes many restrictions which particular students might have whether geographical, economic, social or personal. (Ali Alghazo)

The study concludes that, teachers and students were very satisfied with the implementation of online live broadcast courses in special periods, and also armed the role of online livestreaming courses in improving the quality of teaching. But in general, teachers and students believed that online teaching is an extension of offline classroom teaching. Effective and appropriate use may help improve the teaching effect, but it is impossible to replace traditional classrooms. Teachers were inspired by this live-streaming lesson. They generally believed that online teaching was a form of teaching that was worth promoting. They planned to increase online teaching and use online and offline, in-class and out-of-class teaching modes. (Yun Hong & others, 2020)

For the course to be viable, the time that should be apportioned for internet training will stay an issue for an educator, as the remaining burden is altogether higher. For understudies, an experience with their own learning styles and the longing and inspiration to bear obligation regarding web-based learning will be main considerations in their prosperity. While the educator can, and ought to, plan and screen the course to guarantee that all understudies are kept on target and taking an interest, understudy time management and organizational skills will remain paramount. Moreover, understudies with better perusing and composing abilities will improve in online classes. Customary understudies (age 18-24) accept they learn more in vis-à-vis courses however pick online courses for different individual reasons. 15 to 20 understudies would be the fitting class size for best educating and learning. Subsequently, research on ideal class size for online courses would likewise be useful. Examination on making or getting to instructional systems in electronic conditions that oblige a scope of understudy learning styles would be gainful in assisting with guaranteeing that everything understudies can be fruitful in an electronic climate. (Stern, B.S. 2004)

Assessment of educational value levels in on the web and conventional education shows that customary education is exceptionally significant contrasted with online education. It is out rightly evident that online training doesn't create exceptionally able understudies, regardless of its fame and complexity. Nonetheless, the appropriation of innovation in online education has weaved online courses with a component of dependability and adaptability; hence, the vast majority accept that online training includes an uncommon worth contrasted with the study hall instruction. This is, surely, false on the grounds that quantitative investigations show that classroom education improves the understudies' exhibition and understanding, in contrast to the mainstream idea among the worldwide populace on innovation and high calibres (Caroline Mutuku, 2018)

As per the result of this comparative study it is concluded that although various facilities are available in this e-learning, it can't stand alone especially in management education. Both the combination of e-learning and traditional learning i.e., hybrid learning can work well for management subjects such as human resource development, organizational behaviour,

interpersonal skills, soft skills etc. Conventional learning alone likewise can't represent longer time. Since just facilitator is talking and understudies are listening can make repetitiveness for the understudies. To make fascinating and compelling learning hybrid is acceptable quality for hopeful future managers. (S. Anitha, 2012)

The preference for the method of teaching and learning is influenced by a lot of factors like infrastructure and accessibility to technology. The modern e learning tools have made it easier for the student-teacher community to have access to learning, even outside of institutes at their own ease. E-learning, if made a regular part of teaching can increase its reach and effectiveness. Since a large section of the society is now connected with social media its use for teaching must be encouraged. It can be concluded that the modern ways of education and its IT tools can't replace the teachers but they can empower them for efficient delivery mechanisms of education. A blended approach with a balance of traditional and modern teaching methods is the way forward (Avdesh Bhardawaj & others, 2018)

4. METHODOLOGY OF THE STUDY

1. Research is based on both primary and secondary data.
2. Primary data collected through questionnaire from the students and secondary Data is collected through various published articles, journals, internet website etc.
3. Convenient sampling method is used to select respondents.
4. For analysis and interpretation suitable statistical techniques are used like graphs, tables etc.

5. LIMITATIONS OF THE STUDY

1. Data is collected from students; therefore, it could not be generalized.
2. Because of paucity of time and other resources the data was collected from 142 respondents.

6. ANALYSIS AND INTERPRETATION

Analysis of data can also be defined as the act of transforming data with the aim of extracting useful information and facilitating conclusions. Application of statistical methods depends on the type of data and the questions.

Researcher has collected primary data through questionnaire and analysis is as follows:

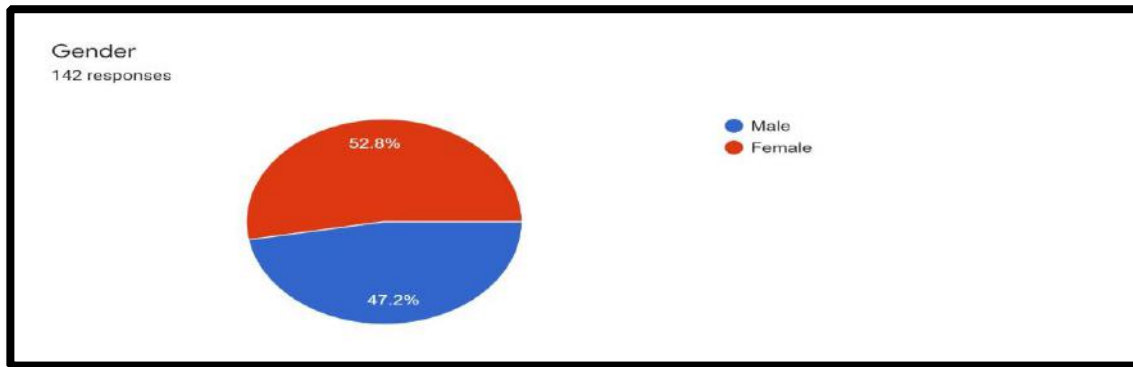


Figure 1: Gender of the Respondents

(Source: Primary Data)

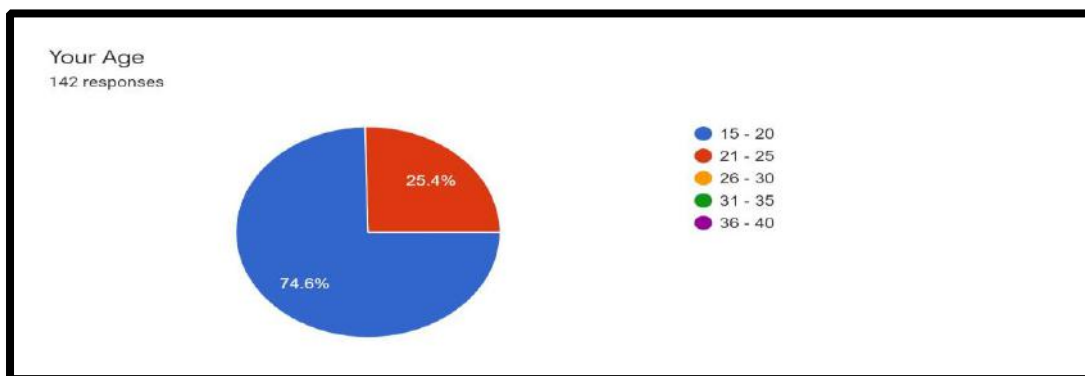


Figure 2: Age of the Respondents

Here sample has majority of young people. Researcher tried to collect information from primarily young adults in order to understand their views towards traditional and online learning.

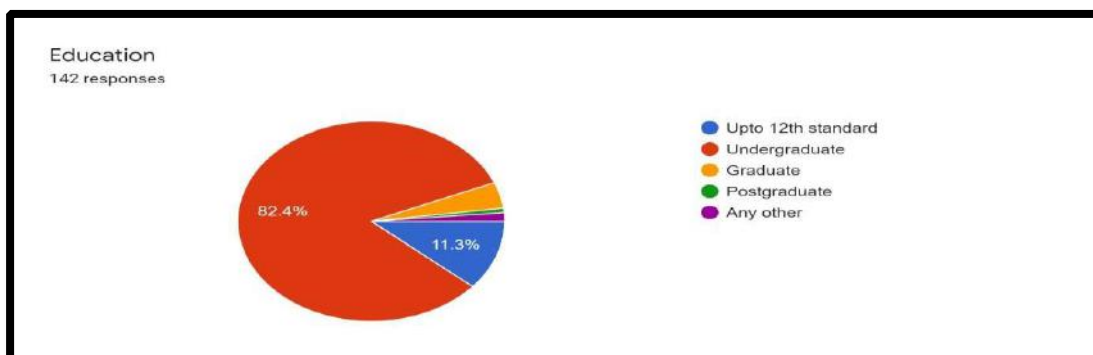


Figure 3: Education of the Respondents

(Source: Primary Data)

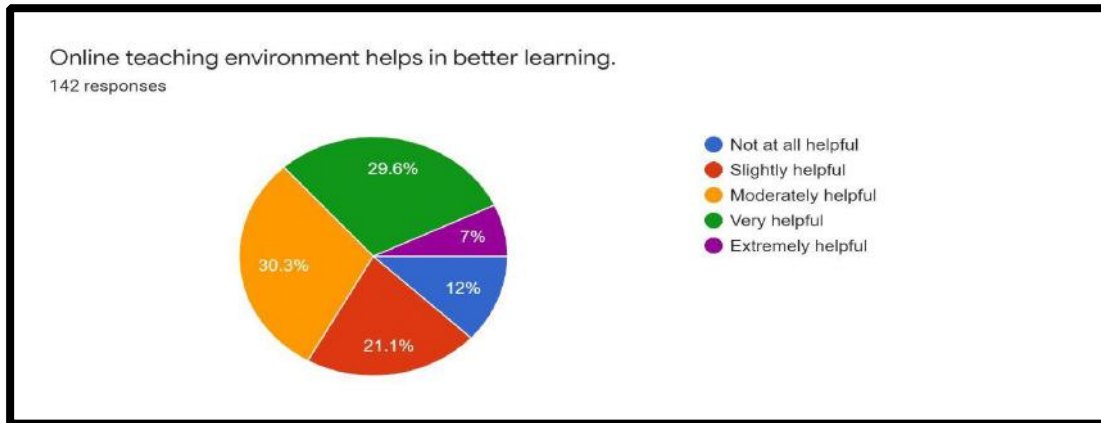


Figure 4: Online teaching environment

(Source: Primary Data)

Majority of the respondents finds that online environment helps in better learning.

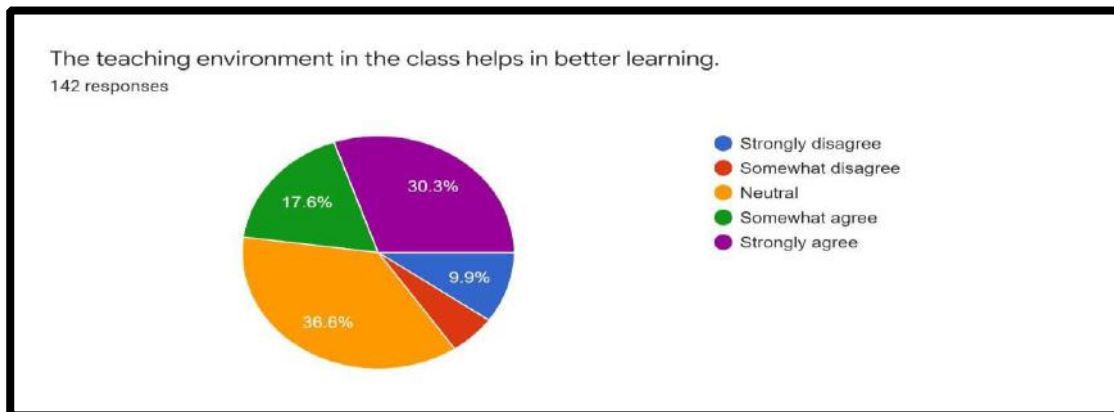


Figure 5: Traditional teaching environment

(Source: Primary Data)

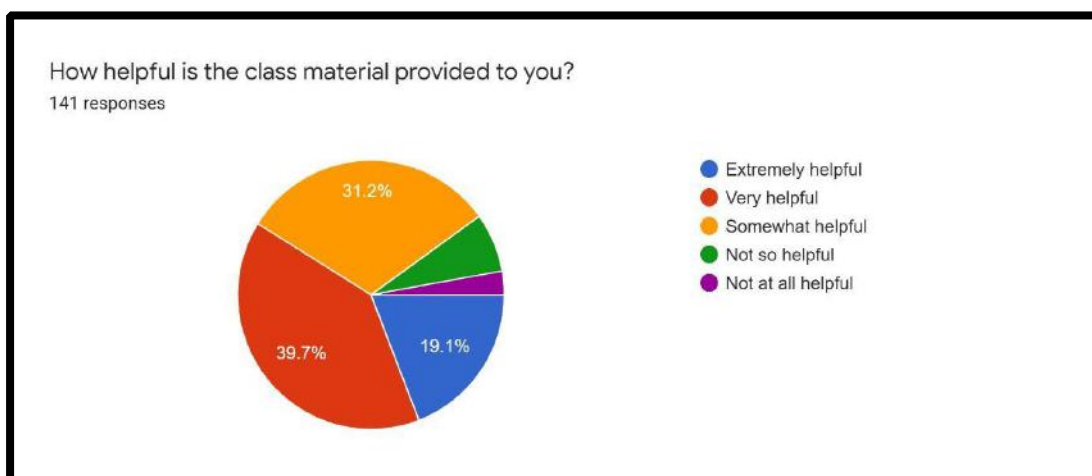


Figure 6: Usefulness of class study material

(Source: Primary Data)

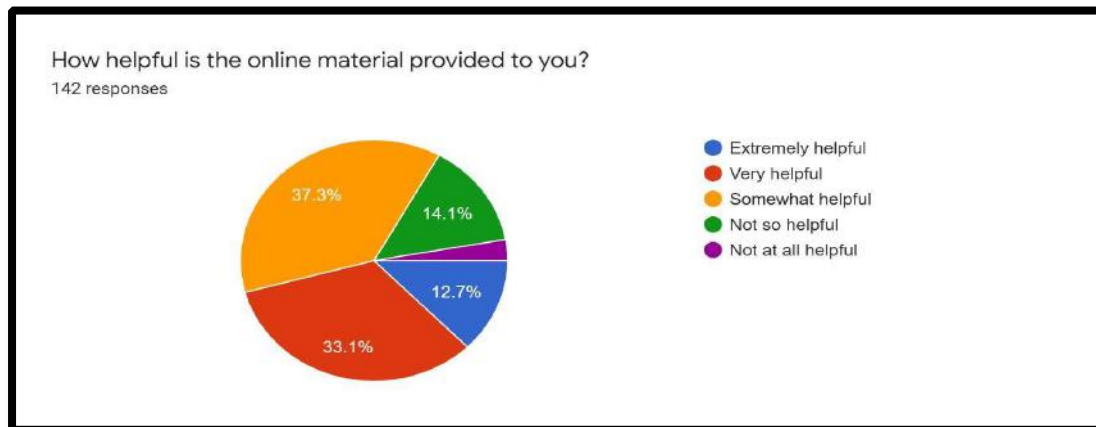


Figure 7: Usefulness of online material

(Source: Primary Data)

Majority of the respondents i.e 45.8% says that the online material provided is very much helpful, and 37.3% says it is somewhat helpful.

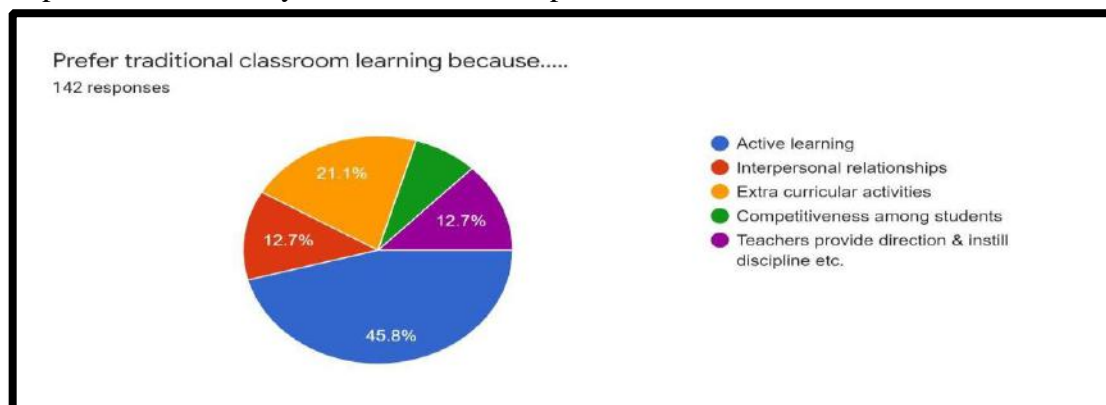


Figure 8: Preference for traditional classroom learning

(Source: Primary Data)

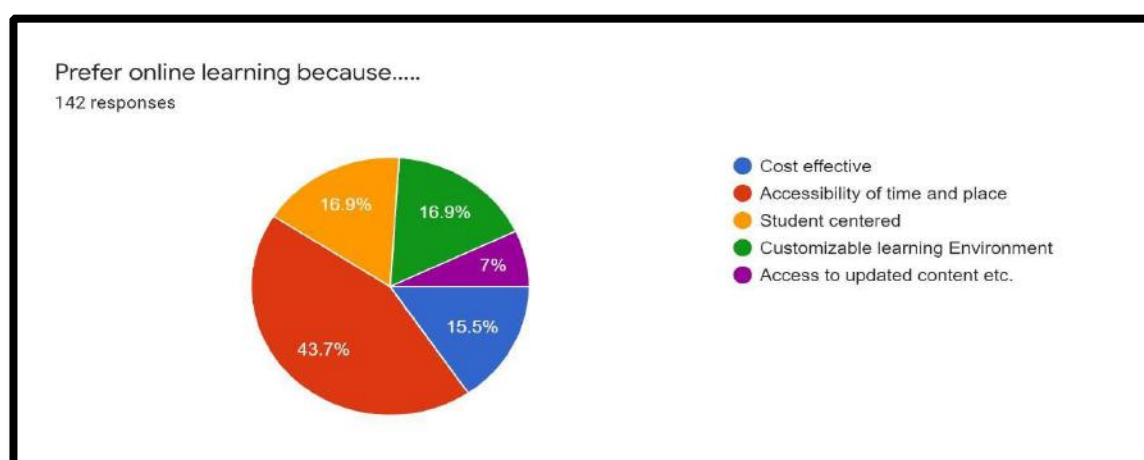


Figure 9: Preference for online learning

(Source: Primary Data)

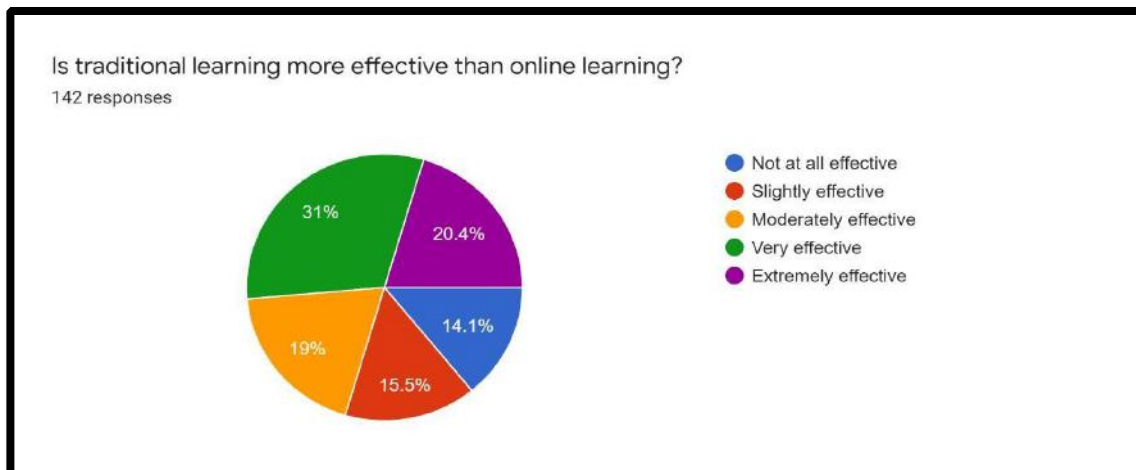


Figure 10: Comparison of effectiveness of traditional and online learning
(Source: Primary Data)

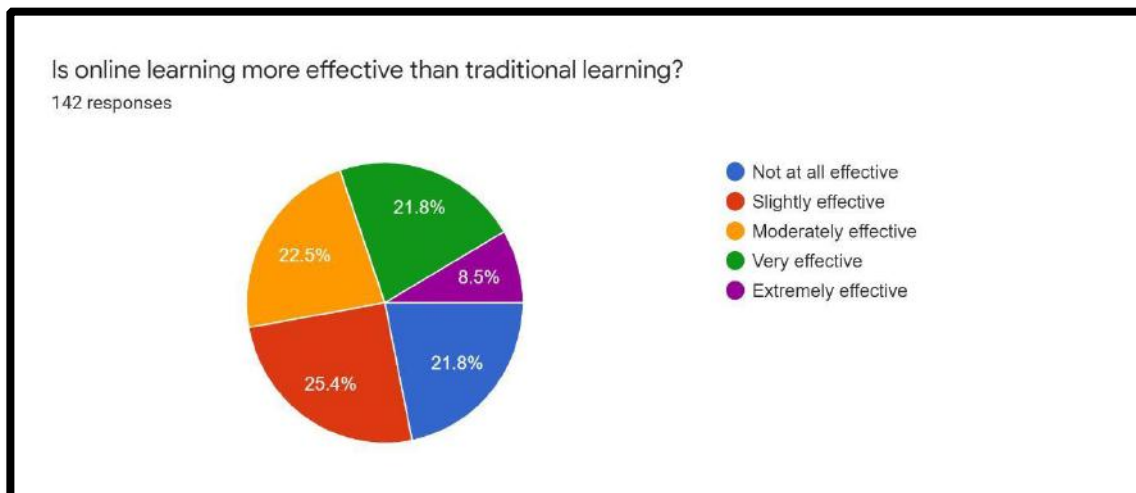


Figure 11: Comparison of effectiveness of online and traditional learning

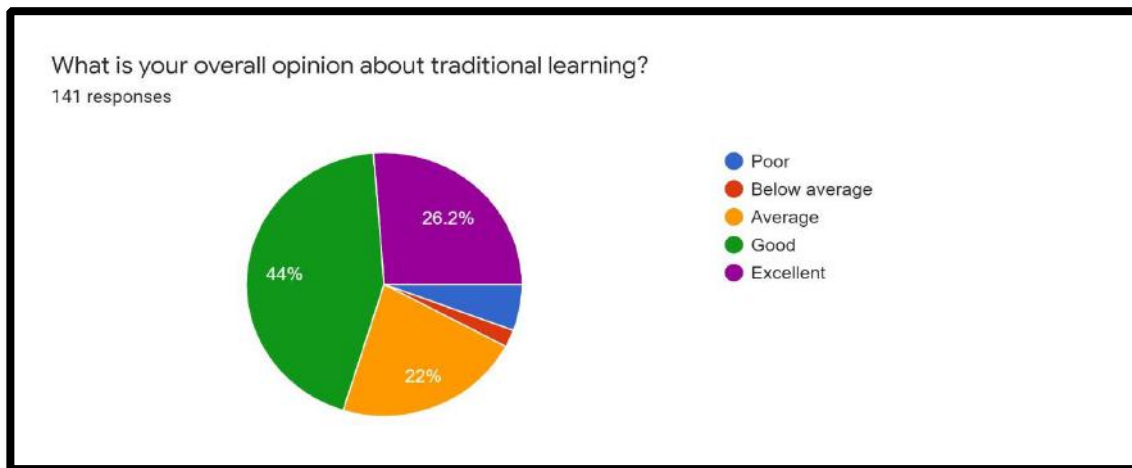


Figure 12: Opinion about traditional learning
(Source: Primary Data)

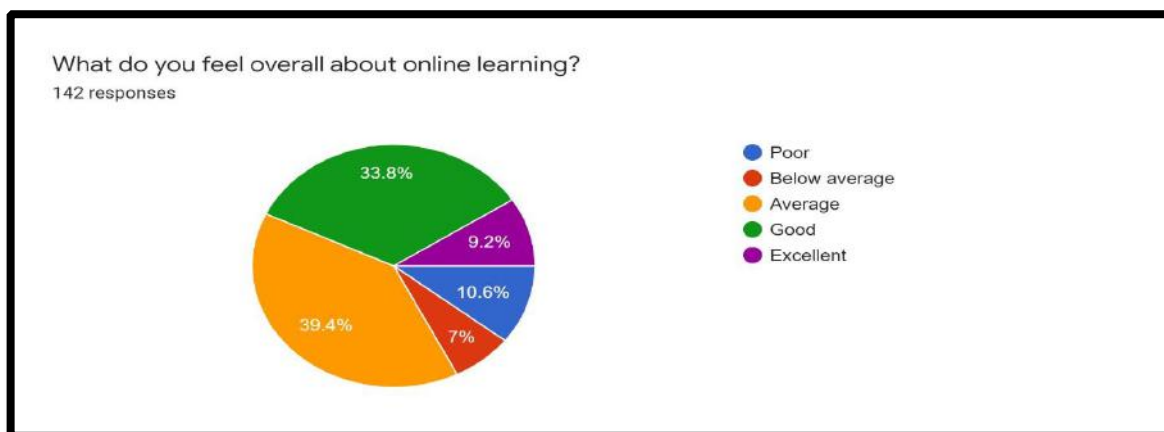


Figure 12: Opinion about online learning

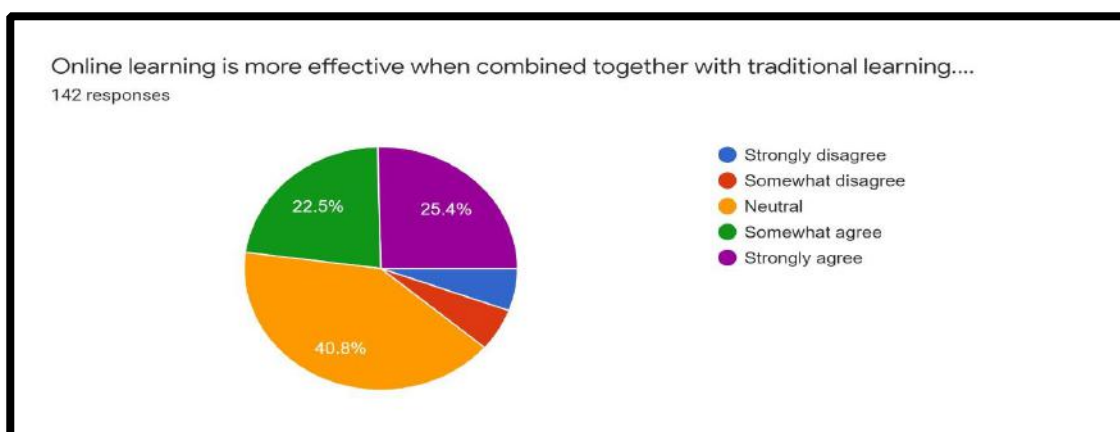


Figure 13: Opinion about Blended learning

(Source: Primary Data)

47.5% of the total respondent said that, blended learning is more effective. 40.8% were neutral and did not showed any inclination towards blended learning.

7. FINDINGS

1. Majority of the respondents are from the age group 15-25. Out of 142 respondents 106 are from the age group 15-20 and 36 are from the age group 16-20.
2. Majority of the respondents are undergraduate students; some were graduate as well as post graduate too. Out of 142 respondents 117 are from undergraduate courses.
3. More than 50% i.e 66.9% means 95 respondents finds that online environment helps in better learning
4. 83 respondents i.e 58.8% finds class material provided in traditional learning is very much helpful.
5. 65 respondents i.e 45.8% of the respondents finds online material provided is very much helpful.
6. Respondents provided different reasons in support of traditional learning. Majority of them i.e 65 respondents (45.8%) prefer traditional learning because it provides active learning and 30 respondents (21.1%) prefer traditional learning environment due to exposure to extracurricular activities other respondent prefer traditional learning environment because of interpersonal relations, teacher's guidance and competitiveness among the students etc.
7. Out of 142 respondents 62 respondents (43.7%) prefer online learning mainly due to flexibility of time and place. Other respondent prefers online learning due to cost effective, customized learning environment, access to uploaded material anytime, student centric etc.
8. Out of 142 respondents 73 respondents (51.4%) said traditional learning is more effective than online learning whereas 43 respondents (30.3%) pointed out that online learning is more effective than traditional learning.
9. Out of 142 respondents, 100 respondents (70.2%) says that traditional learning method is good whereas 61 respondents (43.0%) said online learning method is good.
10. Respondents had mixed opinion about blended learning methods. 67 respondents (47.5%) said that, blended learning is more effective whereas 58 respondents (40.8%) were neutral and indecisive.

8. CONCLUSION

Traditional learning methods where teacher or mentor has face to face communication, competitive environment, extracurricular activities, personal attention towards inculcation of values, discipline etc. takes place. In traditional learning focus is on the overall personality development of student. The skill and talent of the students is recognized and requisite platform is provided to them. Online learning has advantages like flexibility of time, student centred, anytime and anywhere accessibility, availability of study material etc. From the overall responses that have been received from the respondent, researcher is able to conclude that both the methods of learning have its own set of advantages and limitations. As the society is undergoing changes, the field of education cannot remain untouched or aloof. We get to see use of technology in the field of education in the form of presentations, online

whiteboard, live online classes, pre-recorded video lectures, flipped classroom, game based teaching, class blog, live chatting, discussion board and forum, use of artificial intelligence etc. During this pandemic situation, when traditional teaching and learning was not possible online learning was a boon. A proper blend of traditional and online learning will prove extremely beneficial to the students. We need to combine the advantages of both the methods and minimize its limitations.

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Corporate Social Responsibility for Social Impact

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ABSTRACT

Corporate Social Responsibility (CSR) has assumed a new meaning in today's world, given that it has extended the boundaries of the firm into the society. In this paper we discuss the broad patterns of CSR in the Indian scenario. We explain the concept of CSR in the Indian scenario, the social issues addressed by the Indian corporations, and methodology adopted by them to address those issues. We also discuss how these CSR activities bring change in the lives of these disadvantaged and deprived people. Some business association are rather hesitant to accept mandatory CSR requirements promoted by the commission, although the value and importance of CSR for society is acknowledged. Also there is more and more awareness that CSR activities are not merely of charitable nature, but that they also contribute to a positive image of the company, to increased employee and customer satisfaction as well as to other soft factors that need to be taken into account when measuring business success. This approach also reaffirms the view that businesses are an integral part of society, and have a critical and active role to play in the sustenance and improvement of healthy ecosystems, in fostering social inclusiveness and equity, and in upholding the essentials of ethical practices and good governance. This also makes business sense as companies with effective CSR, have image of socially responsible companies, achieve sustainable growth in their operations in the long run and their products and services are preferred by the customers. It will help the readers to understand the current state of Indian CSR, its impact on the Indian society, how to measure the impact of CSR initiatives using newly proposed CSR impact Index.

1. INTRODUCTION

The Indian government is mulling over a new Companies Bill in the Indian Parliament clause 135(5) of the same bill prescribes that every company with a net worth of at least of Rs.5000 million, or turnover of at least Rs. 10,000 mn, or a net profit of at Rs. 50 mn will have to spend 2% of its three years average profit on CSR activities. Given that almost a third of the country's population lives in poverty and penury, CSR provides Indian corporations a readily available and highly impactful opportunity to prove and establish the legitimacy of their actions by moving beyond charities and rural development activities. More objectively, it will tend to counter balance to some extent, the impact of the huge negative externalities that commercial activities tend to create in the developing societies they operate in, also new business models emerging out of these innovative hybrid partnership may give rise to unforeseen fortuitous results that will give a boost to economic growth in this emerging market.

In this paper we aim to discuss the contemporary understanding of CSR practiced by companies operating in India, through their CSR activities, novel implementation approaches, and

stakeholder issues, and the concerns. We present the finding of our research and explain the current CSR orientation of companies in India.

Objective of The Study

1. To study the concept and importance of Corporate Social Responsibility.
2. To study the innovative strategies of Corporate Social Responsibility performed by corporate.
3. To study the ways of implementation of Corporate Social Responsibility.
4. To evaluate the impact of Corporate Social Responsibility in society.

Definition

According to World Business Council for Sustainable Development, 2001, CSR is 'the commitment of business to contribute to sustainable economic development, working with employees, their families, and the local communities'.

CSR is typically described as self-regulation that is part of a corporation's business model and strategic plan. In a perfect world, CSR means that a business monitors itself to make sure it adheres to legal, ethical, environmental, and international standards across its operations.

2. REVIEW OF LITERATURE

According to Bhattacharya in his book *Leveraging Corporate Social Responsibility*, consideration of the social, economic and political context demonstrates how CSR forms part of a wider strategic direction being taken internationally with regard to state/market relations and the pursuit of a range of objectives and goals. The context is in part provided by concerns about the numerous examples of irresponsible behaviour on the part of corporations, ranging from colluding with oppressive regimes and in the overthrowing of governments to issues relating to working conditions and the impact of unethical marketing practices. Such examples have demonstrated the need for the worst excesses of business to be curbed.

According to I. **Jain** in his article (*Corporate Social Responsibility Practices in India*), the globalised economy is understood to raise important issues for businesses and governments due to changes in patterns of production and consumption. The notion of corporate social responsibility is part of the 'third way', where the role of the state is now to provide "steering for the promotion of social development and social justice". There is increased involvement of the private sector in traditionally statutory provision through privatisation and public/private partnerships. Economic policies have created a need for markets and business to self-regulate in order to continue to pursue an international free market economy, but also to ensure sustainability (of economic, human and other resources, and of the environment). CSR is seen as a solution to these problems of regulation.

3. RESEARCH METHODOLOGY

In this research, the researcher has used both primary and secondary data. The primary data has been collected through questionnaire. Secondary data is being collected from various books, journals, websites as well as newspapers.

Limitations of the study

The study is restricted to Mumbai city only.

The survey includes the data of 30 responses.

Importance of Corporate Social Responsibility

1. It encourages customer loyalty

People are giving to charitable organizations in high numbers. Millennials are especially active. To attract customers and keep their loyalty, corporations need to pay attention to what customers care about. If a customer feels like they are living out their values by supporting a certain business, they are more likely to stick with the brand.

2. It gives businesses a competitive edge

Customers care about a business's part in social issues and they will be loyal to corporations they believe align with their values. That means corporations that cater to these customers have a competitive edge over companies that don't. They might offer the same products and services, but the fact that they are making corporate responsibility a priority makes them more appealing. Drawing that distinction is essential for marketing purposes.

3. Corporate responsibility makes employees happier and more fulfilled

Research shows that employees of businesses that prioritize CSR are happier and more fulfilled. 80% of employees report feeling more purpose when they believe their work makes a difference in the world. That sense of purpose is essential to employee loyalty and dedication. When personally fulfilled, people are less vulnerable to fatigue and stress. They're also more likely to stay with the company.

4. It makes a business more sustainable

When a corporation decides to make corporate responsibility a focus, it needs to be more innovative and creative. It can't be "business as usual." Nurturing innovation and creativity forces a company to stay relevant and adjust according to what customers want. These days and for the foreseeable future, customers want social responsibility. The ability to adapt is important for longevity and sustainability.

What Makes Corporate Social Innovation Different?

Traditional CSR

Philanthropic Intent	Money, Manpower
Employee Volunteerism	Contracted Service Providers
Social and Eco-Services	Social Good

Corporate Social Innovation

Strategic Intent	R&D, Corporate Assets
Employee Development	NGO/Government Partners
Social and Eco-Innovations	Sustainable Social Change

1. Governance - Sustainability needs to come from within

When corporations decide to move from CSR activities to investing strategically in its people or processes in order to be more socially or environmentally minded, they need to have the full support of senior executives and shareholders to take effect. These shifts represent large investments which will increase the business's sustainability in terms of finance and community. Only through strong leadership paired with a set of measurable goals will the desired business transformation take place.

2. Strategic Partnerships: Scaling innovation through collaboration

Innovation comes from unlikely connections. Most businesses underestimate the diversity of the communities, organisations and people they impact within their ecosystem. This is an untapped source of innovation. In order to build innovative and sustainable businesses, one can easily understand the necessity to collaborate with its different parts. Designing, manufacturing, delivering and scaling with the most relevant organisations and people rather than at them.

3. Employee Engagement: Unlocking human potential

Once social innovation has been embraced at a governance level, businesses will need to engage employees to have a new strategy turn into reality. Might it be through intrapreneurship initiatives or community driven volunteering schemes, changing mindsets within the organisation is key to align employees with the strategic shifts towards long-term sustainability planned by executives. This new set of organisational goals, the resources and incentives that each employee has in his or her hands to act on them, will need to be clearly conveyed in order for all of the business's human potential to be unlocked.

4. Product Innovation: From social issue to business opportunity

Peter Drucker, consultant and author, whose writings contributed to the philosophical and practical foundations of the modern business corporation once said "every single social and global issue of our day is a business opportunity in disguise". There are numerous examples of highly successful start-ups, now global companies, which have done just that. However competing business priorities, especially pressures on short term profit by shareholders, often

lead to a shorter term vision, potentially losing on profit-making, community-improving product and service innovations.

5. Community Engagement: Giving back to people you sell to

At the 2013 TED Global conference, Harvard Business School professor Michael Porter made the case that businesses can help tackle community problems, as organizations and institutions dealing with them don't have nearly enough resources to finance the necessary change. The model in place to deal with social issues, including NGOs and philanthropies, is well-meaning but often scales with difficulty. Issues such as healthcare, access to water or education and climate change would be much better addressed with a deeper collaboration between businesses, NGOs and governments.

4. APPLICATIONS

Activities which may be included by companies in their Corporate Social Responsibility Policies

Activities relating to:—

Eradicating extreme hunger and poverty;

Promotion of education;

Promoting gender equality and empowering women;

Reducing child mortality and improving maternal health;

Combating human immunodeficiency virus, acquired immune deficiency syndrome, malaria and other diseases;

Ensuring environmental sustainability;

Employment enhancing vocational skills;

Social business projects;

Contribution to the Prime Minister's National Relief Fund or any other fund set up by the Central Government or the State Governments for socio-economic development and relief and funds for the welfare of the Scheduled Castes, the Scheduled Tribes, other backward classes, minorities and women.

5. FINDINGS

Our study shows that most companies in India engage with local communities near their area of operations, and the beneficiaries of CSR activities are generally the local population.

The companies think that CSR is a set of philanthropic activities a company carries out voluntarily on a random basis in the local community.

Taking a holistic view of CSR is irreplaceable since currently in our sample of companies, we observe that most firms have adopted the same sectors for CSR (e.g. , healthcare, or education), and then they spend CSR budgets on a project basis (doing some health camps, adopting a village, building a road, maintaining a facility and so on). Such project to project variations in CSR initiatives is seemingly devoid of a strategy, and also shows a lack of synergy with business operations.

It has been seen in the survey that the implementation of CSR activities are mainly carried out by corporate voluntary followed by caused related marketing, sponsorship and donations.

CSR has not remained the same which was a decade earlier, but now CSR has been practiced more in terms of gain in reputation and goodwill, we lack in helping the target audience completely as the CSR activities are carried out initially very well but the enthusiasm seems to disperse within time.

6. SUGGESTIONS

The following are some suggestion evolved in the brainstorming process of discussion.

Adopt a small village, Educate the people on sanitation, cleanliness, good habits through counsellors appointed by company., Tree plantation in the approach road., Clean the beach areas /rivers with a voluntary team., Take the orphanage children for a movie/outing., Talk to the old age homes and arrange some entertainment to them., Help the old age home inmates writing letters to their near and dear ones., Give them used/old mobile sets with incoming call facility., Organize free medical/blood donation camp., Giving used clothes, shoes, school bags, books to the deserved ones., Free service at Govt Hospitals., Arrange dust bins for collecting garbage in villages., Opening Employment bureau, collect opportunities list for all kind of people and coordinate with unemployed youth to engage them gainfully., Offer Project trainee opportunities to unemployed youth fresh from colleges (MBA, Graduates/Post graduates, Engineers, Diploma holders, ITIs) give them training of minimum 6 months (unpaid apprentice like) and give them a certificate of completion of training., Collaboration of cooperative societies with NGOs which can help in mediums of rehabilitation, Organize Yoga/physical fitness camps, control over criminal activities etc., Practice of consistent CSR audit.

7. CONCLUSION

By synthesizing the findings of the survey of the final report draws the following conclusions:

It is now recognized that poverty reduction and sustainable development will not be achieved through government action alone. A truly cross-sectoral institutionalization and a better collaboration between ministries could improve CSR policies in line with other SD policies, and the triple bottom line principle that is shared by both concepts. Awareness raising is important, but overall rather soft CSR policy approach lacks the potential. The target groups of the surveyed CSR policy initiatives do not match with the general assessment of target groups. Future CSR awareness raising initiatives should take this mismatch into consideration. Awareness raising initiatives should always explore possibilities of involving the media, including business-specific channels of communication, such as magazines or newsletters of chambers of commerce, as well as trade and labour unions. CSR initiatives should focus on companies needs. One way of providing relevant practical information to different companies is to tailor it to company size and sectors.

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Crude Oil Replacement is a Need

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ABSTRACT

More than four billion tons of crude oil are produced every year. Electricity from wind, solar and hydropower plants cannot entirely supplant fossil sources of energy. At best, renewables could cover the energy needed to power all electric cars and to generate hydrogen for fuel cell vehicles. Even then, gasoline would still be required to power combustion engines, which will be operating for decades to come. The only sustainable way to keep us mobile is to replace this gasoline with alternative fuels. Scientists at the Fraunhofer Institute for Microengineering and Microsystems IMM, working together with twelve research groups from seven countries in the EU project BIOGO, have developed a technique to produce just such an eco-friendly biofuel. The novel fuel's ingredients come from forests: "Wood waste and tree bark are available in great quantities throughout Europe but, up to now, have all been ignored as a resource. That makes them an ideal raw material, as they do not need to be specially cultivated and thus won't compete with food production," explains Prof. Gunther Kolb from Fraunhofer IMM, who coordinated the EU project. What is more, using wood waste is climate-neutral, since converting it into fuel for combustion only releases carbon dioxide that the trees previously extracted from the atmosphere as they grew. In other words, no additional greenhouse gases are released into the atmosphere. On top of that, the fuel can be generated from wood waste wherever trees grow. Unlike petroleum, it doesn't need to be transported first from the source to refineries and then on to filling stations. "An important component of the BIOGO concept is decentralized production," says Kolb. "To achieve this, we have developed mobile production units that can be housed in containers and installed where they are needed."

Key words: Alternative fuels, energy consumption, power generation, renewable energy, crude oil

1. INTRODUCTION

Being mobile is perfectly natural for most of us. We take the car to work, fly to our holiday destination – and cruise tourism is still growing. Mobility means freedom, allows us to see the world – and is sometimes just plain comfortable. But it also has its downsides. Approximately a quarter of the world's CO₂ emissions can be traced back to traffic. After all, the gas that was bound in mineral oil thousands of years ago is released into the atmosphere when fossil fuels are burned.

Concerning the emerging e-mobility, the demand to only use electricity from renewable sources is still far from reality at the moment. Thus, our means of transportation considerably contribute to climate change. Especially since fossil fuels are limited by definition and will inevitably run out sooner or later. Therefore, we need alternatives to classic petrol, diesel and kerosene: green, regenerative alternatives.

2. BIOFUELS

2.1 Biofuels: Mobility, powered by nature

Good news is that these alternatives already exist – for example in the form of biofuels. The classics are biodiesel, which is based on vegetable oil, as well as bio-ethanol, which is produced from sugar cane, sugar beet or wheat. Since these plant-based raw materials grow back continually, combustion in the engine is basically climate-neutral: the CO₂ released during driving is limited to the quantities that the plants have absorbed beforehand – a sustainable cycle is created.

At present, the share of biofuels in the total amount of fuel consumed is still low – in 2014 it was a meagre 5.1 percent. For the future, however, experts estimate that more biofuels will end up in our tanks. The International Energy Agency predicts that by 2045 about 20 percent of road traffic will be powered by vegetable fuel.

2.2 Biofuel: plant residues in the tank

Consequently, it's only fitting that we at ThyssenKrupp have a clear goal: We want to become climate-neutral by 2050 – and that also applies to the emissions generated by using our products. That's why we continually work on the future of green fuels.

Our Biofuel project aims precisely in this direction: With this innovative technology, our energy experts want to make it possible to produce Biofuel cheaply and thus suitable for mass production. "Biofuel" stands for "biomass to liquids" and describes the production process of the new biofuels in detail. Biomass, i.e. natural waste such as green waste, straw and waste wood is turned into high-quality aviation fuel and diesel. This is a major advantage over the old biofuel generation, for which edible plants such as rapeseed, corn or sugar cane are processed. Considering the lack of food in many countries, this process led to criticism and defined the "food or fuel discussion."

If the project is successful, the Btl fuel could be offered pure or mixed with fossil fuel: for all diesel or kerosene powered engines and other engines, regardless of whether they are used in cars, trucks, trains, ships or airplanes. A conversion will therefore not be necessary. And best of all, the innovative biofuels save 90 percent of CO₂ emissions compared to conventional fuel.

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An everyday life without means of transport is nowadays hardly to imagine. Full streets and a lot of traffic are part of our day-to-day life.

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2.5 BioTfuel, fuel, diesel, biofuel

This plant produces high-quality aircraft fuel and diesel from biofuels. If the project is successful, the Bio t fuel could be offered pure or mixed with fossil fuel: for all diesel or kerosene powered engines and other engines, regardless of whether they are used in cars, trucks, trains, ships or airplanes. A conversion will therefore not be necessary. And best of all, the innovative biofuels save 90 percent of CO₂ emissions compared to conventional fuel.

3. E-FUELS: GREEN HYDROGEN TO TURN TRANSPORTATION AROUND

In addition to alternative plant-based fuels, the so-called "e-fuels" are also a hot topic. They are artificial fuels based on green hydrogen – "green" because the energy required for water electrolysis is obtained from renewable energy sources. The idea is simple: hydrogen and CO₂ react and form methane – the most important ingredient for green, synthetically produced and petroleum-free fuel.

One way to achieve this is our Carbon2Chem Initiative – a globally unique large-scale project in which the gases produced during steel production, especially the climate-damaging CO₂, are no longer burned but transformed into valuable raw materials such as methanol or ammonia. Metallurgical gases contain chemical elements such as nitrogen, hydrogen and above all CO₂. Our experts further process the substances into a precursor for methanol, from which fuel can be produced in the final step. This innovative technology could be used on an industrial scale in five to ten years.

4. OXYFUEL: CO₂ BECOMES SYNTHESIS FUEL

The energy-intensive cement industry, which is responsible for around seven percent of global CO₂ emissions, also offers opportunities for e-fuels: Our oxyfuel process allows the harmful greenhouse gas CO₂ to be separated in concentrated form and used as fuel, amongst other things. With our innovative method, the burning process in clinker production is no longer operated with ambient air, but with pure oxygen. As a result, hardly any nitrogen enters the firing process and highly concentrated CO₂ is produced. In this form, the gas can finally be separated so that it does not enter the atmosphere. Thanks to its purity and using other technologies, the greenhouse gas can then be converted into a raw material – and thus forms the basis for the production of e.g. fertilizers, plastics but also synthetic fuels.

5. CONCLUSION

Renewable resources such as wind, solar, and ocean power exploited by Nano techniques will be promisingly reliable solutions to diminishing the dependence on fossil fuel supplies. In the Good future, research on the remediation of environmental problems and green technologies will be realized to make the new clean eco-energy sources practical on a commercial scale

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Digital Marketing: Current Trends in India

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ABSTRACT

The rapidly emerging digital economy is challenging the relevance of existing marketing practices and a radical design of the marketing curriculum consistent with the emerging student and *business needs of the 21st century* is required to remain relevant to our students and to the ultimate consumers of our output business, the marketing curriculum must evolve with both the changing technology environment and the way marketing is perceived by its own academic architects after an overview of recent marketing trends. This article describes the need for a fundamental change in the teaching of marketing in today's environment, performs a curriculum audit of existing digital marketing initiatives and then details of a new curriculum reflective of marketing in a digital age and an approach to implement it. Finally, the new major is discussed in the context of specific challenges associated with the new age of marketing. The approach developed here provides other universities target to serve as one measure of progress towards a curriculum more in tune with the emerging digital environment.

Keywords: *radical design, curriculum audit, marketing curriculum*

1. INTRODUCTION

In simplistic terms, digital marketing is the promotion of products or brands via one or more forms of electronic media. Digital marketing differs from traditional marketing in that it involves the use of channels and methods that enable an organisation to analyse marketing campaigns and understand what is working and what isn't – typically in real time. (1). Digital marketing or marketers monitor things like what is being viewed how often and for how long sales conversion what content works and doesn't work etc., while the internet is perhaps, the channel most closely associated with the digital marketing. Others include wireless text, messaging, mobile instant messaging, mobile apps, pod costs, electronic bill boards, digital television and radio channels etc.

Importance of Digital Marketing: Digital media is so pervasive that consumers have access to information any time and any place they want it gone are the days when the message people got about your products or services came from you and consisted of only what you wanted them to know. Digital media is an ever growing source of entertainment news shopping and social interaction and customers or consumers are now exposed not just what your company says about your brand, but what the media, friends, relatives, peers, etc., are saying as well and they are more likely to believe them than you people want brands they can trust, companies that know them, communications that are personalised and relevant, and offers tailored to their needs and preferences.

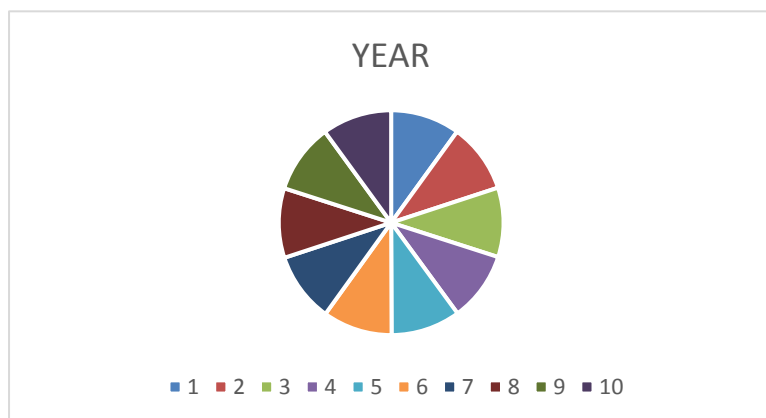
Customer Interactions across All channels: Digital marketing and its associated channels are important but not to the very high extent it's not only enough to just know your customers you must know them anybody also so you can communicate with them where, when and how they are most receptive to your message. To do certain kind of activities like that you must need a consolidated view of customers preferences and expectations across all channels like web, social media, mobile, direct mail, point of sale etc.. Marketers can use this information to create and anticipate consistent, coordinated customers experience that will move customers along in buying cycle.

Challenges Facing in Digital Marketing

- Proliferation of digital channels
- Intensifying competition
- Exploding data volumes

2. RESULTS

As per the recent survey revealed that the uses of digital marketing and its standards is increasing vigorously in the present era. Is most preferable market in India now-a-days. The digital marketing scenario is increasing rapidly across the India as well as the world. So there is a large scope for the digital marketing industry in Indian market. Some statistical data is given below to support the statements.



Source : Group M Estimates

Table 1: Digital Advertising in India-Year on Year Growth

Digital Advertising in India	
Year	Growth in %
2011	71
2012	64
2013	39
2014	27
2015	38
2016	45
2017	38
2018	34
2019	57
2020	62

Source : Group M Estimates

Digital Marketing-Connecting People:

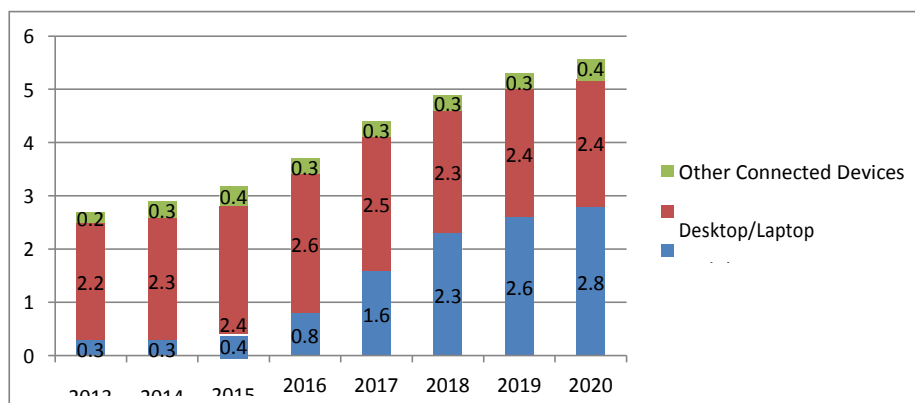


Interpretation: Digital marketing is connecting to India in all the social means of ways. It is most effective worth project in India in present business scenario. Some of the medias are ppc ,sms, mobile, augmented reality, seo,smo,email.,etc.,

Table 2: International View in Digital Marketing

Time Spent per Adult User per Day with Digital Media in INDIA 2013-2020				
	Hours Per Day – Various Devices			
Year	Mobile	Desktop/Laptop	Other Connected Devices	Total
2013	0.3	2.2	0.2	2.7
2014	0.3	2.3	0.3	2.9
2015	0.4	2.4	0.4	3.2
2016	0.8	2.6	0.3	3.7
2017	1.6	2.5	0.3	4.4
2018	2.3	2.3	0.3	4.9
2019	2.6	2.4	0.3	5.3
2020	2.8	2.4	0.4	5.6

Graphical Interpretation



Interpretation: The time spend per adult user with digital media, INDIA, 2011-2018 tears are as follows. On the x-axis it is taken as hours per day. On y-axis years are taken. Usage of mobile internet is more increasing now a day's Desktop usage seems constant from 2013 to

2020. Other connected devices are only 0.3% -0.4% only.

3. DISCUSSION AND CONCLUSION

Consumers use multiple digital channels and a variety of devices that use different protocols, specifications and interfaces and they interact with those devices in different ways and for different purposes. Digital channels are relatively cheap, compared with traditional media, making them within each of practically every business of every size. Finally, I conclude my topic with three keys to digital marketing success.

Keys to Digital Marketing Success: Manage complex customers relationships across a variety of channels both digital and traditional. Respond to and initiate dynamic customer interactions. Extract value from big data to make better decisions faster.

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Embracing Change & Transformation in Mutual Fund Industry

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ABSTRACT

A mutual fund is a type of financial vehicle made up of a pool of money collected from many investors to invest in securities like stocks, bonds, money market instruments, and other assets. Mutual funds are operated by professional **money managers**, who allocate the fund's assets and attempt to produce capital gains or income for the fund's investors. A mutual fund's portfolio is structured and maintained to match the investment objectives stated in its prospectus. Mutual funds give small or individual investors access to professionally managed portfolios of equities, bonds, and other securities. Each shareholder, therefore, participates proportionally in the gains or losses of the fund. Mutual funds invest in a vast number of securities, and performance is usually tracked as the change in the total market cap of the fund derived by the aggregating performance of the underlying investments.

Keywords: - *Mutual Funds, Money Manager*

1. OBJECTIVES

This study aims to gather information on how Mutual Funds are making India, a growing economic country. For this purpose, researcher has tried to find out the solutions for following questions: -

- What is the future of Mutual Funds towards development of India in coming 5 years?
- What are the opportunities to serve in Mutual Fund Industry?
- Impact of COVID-19 on Mutual Fund Industry.

2. RESEARCH METHODOLOGY

This research is purely a doctrinal research. This research is based on collection of data from secondary sources like journal, book, newspaper, magazines, websites and acts.

3. INTRODUCTION

- A mutual fund is a type of investment vehicle consisting of a portfolio of stocks, bonds, or other securities.
- Mutual funds give small or individual investors access to diversified, professionally managed portfolios at a low price.
- Mutual funds are divided into several kinds of categories, representing the kinds of securities they invest in, their investment objectives, and the type of returns they seek.
- Mutual funds charge annual fees (called expense ratios) and, in some cases, commissions, which can affect their overall returns.
- The overwhelming majority of money in employer-sponsored retirement plans goes into mutual funds.

The Association of Mutual Funds in India (AMFI), the trade association of Asset Management Companies (AMCs) of all Mutual Funds in India has announced its Vision 2025

for the mutual fund industry and launched a fact book along with CRISIL called "**Quantum Leap Beckons**" which provides comprehensive and historical statistics on the mutual fund industry. This was done at the first ever mutual fund summit in the presence of chief guest Ajay Tyagi, Chairman of the Securities Exchange Board of India (SEBI).

The theme of the summit was "**Vision 2025: Setting the Roadmap for the Industry**", with key focus on customer expansion and ease of doing business by leveraging digital technology. AMFI Chairman A Balasubramanian said, "The mutual fund industry is maturing and taking responsible steps in managing investor's money and generating returns. The industry is at an inflection point and set to become a part of investment consideration of every investor, thus making mutual funds a preferred investment choice"

4. IMPACT OF COVID-19 ON MUTUAL FUND INDUSTRY IN INDIA

The start of 2020 appears to be a double whammy for mutual funds. First, there is the COVID-19 pandemic, and then there is a sudden drop in international crude oil prices. Panic in global markets ensued these events. A series of measures were taken by the Indian capital market regulator SEBI and the mutual fund industry body AMFI to protect and safeguard the investors and the mutual fund industry. Understanding market trends, particularly during periods of crisis, is a necessary trait for academic researchers, capital market enthusiasts, distributors, and those seeking a career in the asset management industry.

The scary fall in the stock markets has resulted in investor panic who ran to make MF redemptions. The net outflows are to a tune of Rs. 2.13 lakh crore in March 2020. Much of the damage was because of outflows in the debt segment that saw the highest outflows ever seen in the Indian Debt MF segment in a financial year. Equity investment base managed by MFs got cut by a quarter. With this, the total AUM by all the 44 AMCs fell from Rs. 27.23 lakh crores at the end of February 2020 to Rs. 22.26 lakh crores by the end of March 2020.

Investments always carry market risks. Debt fund investors tend to forget this until they experience this first hand, which, of course, happens rarely. Liquid funds are no exception to this. There are several reasons for this. FIIs sold aggressively in the short-term bond market, and so did corporates to get cash for paying advance tax. Stockbrokers' activity was low due to lockdown.

Lockdown has forced front office operations of AMCs and RTAs to be almost shutdown. AMFI directed all transactions to be done in electronic format only. Some AMCs such as IDFC AMC are encouraging their employees to work from home to provide essential customer support services. Mutual funds are mostly distributor-sold products. Unlike SEBI registered companies providing financial services, distributors are not given permission to move out during the lockdown, and hence distributor-led operations mainly got affected. While electronic transactions are allowed, investors such as senior citizens and retired still use offline and transact with cheques. Such investors could not transact because of the lockdown.

Cut off timings for various mutual fund transactions have been advanced as a result of RBI reducing trading hours for money market and forex markets. Subscription and redemption requests for Liquid and Overnight funds is changed to 12:30 Noon and 1:00 PM, respectively. For all other schemes, the cut-off time is changed to 1:00 PM for both subscriptions and redemptions.

Equity-oriented mutual fund schemes delivered a negative return of about 25 per cent to investors in the months of March and April 2020 as the broader market witnessed significant downtrend amid coronavirus-triggered recession fears. The 44-player mutual fund industry is not immune to the economic blowback of Covid-19, and going ahead, small and mid-cap equity schemes will continue to remain under pressure in the short to medium term on account of volatility in the markets.

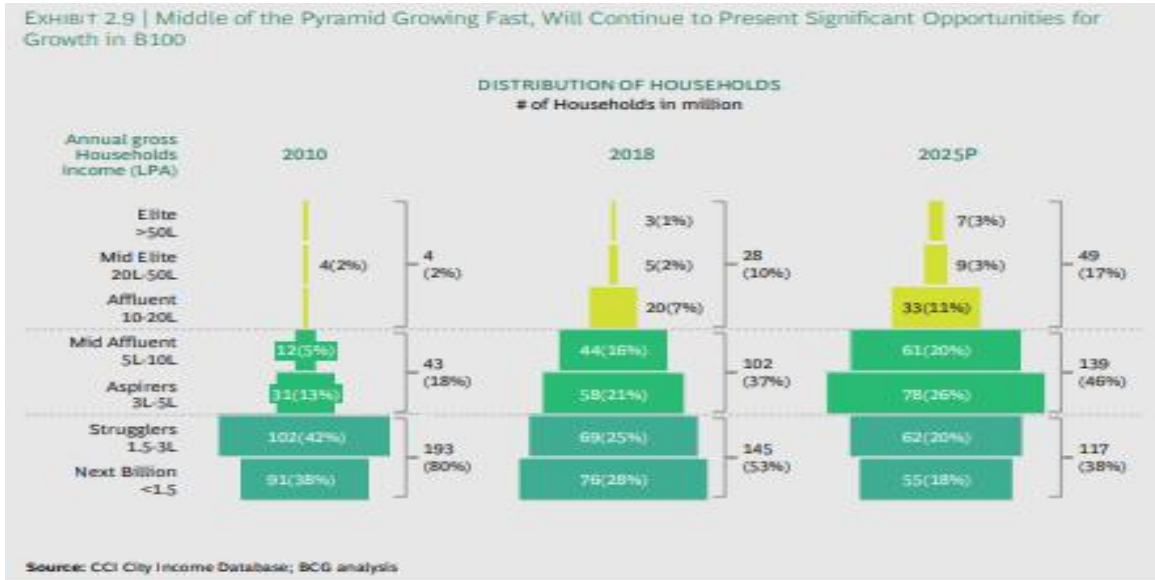
According to data compiled by Morningstar India, all the equity scheme categories -- equity linked saving scheme (ELSS), mid-cap, large & mid-cap, large-cap, small-cap, mid-cap and multi-cap have given negative return in the range of 25-26 per cent between February 19 and March 18, 2020. Individually, large and mid-cap funds have given a negative return of 26.63 per cent followed by large-cap (26.58 per cent), ELSS (26.47 per cent), multi-cap (26.45 per cent), small-cap (26.32 per cent) and mid-cap (24.84 per cent).

5. MUTUAL FUND PERFORMANCE AFTER LOCKDOWN IN INDIA

Scheme Name	Benchmark	Latest NAV (₹)		1-Year Return (%)			Daily AUM (Cr.)
		Regular	Direct	Regular	Direct	Benchmark	
Aditya Birla Sun Life Frontline Equity Fund	NIFTY 50 Total Return Index	159.7200	170.3000	-29.80	-29.35	-28.30	13,994.48
Axis Bluechip Fund	NIFTY 50 Total Return Index	25.0800	27.2900	-11.66	-10.61	-28.30	10,703.96
Baroda Large Cap	NIFTY 100 Total Return Index	11.2200	11.8000	-22.94	-22.42	-28.01	25.99
BNP Paribas Large Cap Fund	NIFTY 50 Total Return Index	73.0900	79.1400	-16.77	-15.87	-28.30	636.91
Canara Robeco Bluechip Equity Fund	S&P BSE 100 Total Return Index	20.7900	22.3400	-16.20	-15.12	-28.63	325.69
DSP Top 100 Equity Fund	S&P BSE 100 Total Return Index	149.3130	156.4340	-27.94	-27.42	-28.63	1,738.03
Edelweiss Large Cap Fund	NIFTY 50 Total Return Index	27.0200	28.5700	-24.06	-22.99	-28.30	140.69
Essel Large Cap Equity Fund	NIFTY 50 Total Return Index	16.4001	18.0394	-28.72	-27.66	-28.30	63.19
Franklin India Bluechip Fund	NIFTY 100 Total Return Index	326.0084	346.2558	-31.17	-30.64	-28.01	4,306.97
Invesco India Largecap Fund	NIFTY 50 Total Return Index	21.4200	23.8700	-25.73	-24.75	-28.30	154.38
JM Large Cap Fund	S&P BSE Sensex Total Return Index	59.0991	63.8492	-11.07	-10.22	-26.39	559.03
Kotak Bluechip Fund	NIFTY 50 Total Return Index	177.0550	191.1040	-24.62	-23.79	-28.30	1,135.63
L&T India Large Cap Fund	S&P BSE 100 Total Return Index	20.4000	21.5120	-25.02	-24.39	-28.63	397.14
LIC MF Large Cap Fund	NIFTY 100 Total Return Index	21.6851	23.1436	-17.28	-16.52	-28.01	262.54
Mahindra Manulife Large Cap Pragati Yojana	NIFTY 50 Total Return Index	7.6300	7.7964	-24.68	-23.13	-28.30	73.57
Mirae Asset Large Cap Fund	NIFTY 100 Total Return Index	37.5360	40.0680	-26.90	-26.09	-28.01	12,770.87
Nippon India Large Cap Fund	S&P BSE 100 Total Return Index	23.2847	24.8360	-34.74	-34.19	-28.63	8,356.74
PGIM India Large Cap Fund	NIFTY 50 Total Return Index	125.6100	137.5900	-25.26	-24.31	-28.30	229.72
SBI Bluechip Fund	S&P BSE 100 Total Return Index	28.6937	30.5941	-27.09	-26.53	-28.63	16,512.06
Tata Large Cap Fund	S&P BSE Sensex Total Return Index	158.0955	172.5712	-28.05	-27.40	-26.39	555.67
Taurus Largecap Equity Fund	S&P BSE 100 Total Return Index	54.5900	57.4400	-26.77	-26.58	-28.63	18.76
Union Largecap Fund	S&P BSE 100 Total Return Index	7.9600	8.1300	-26.30	-25.89	-28.63	137.70
UTI Mastershare Fund	S&P BSE 100 Total Return Index	92.2299	96.4064	-25.18	-24.61	-28.63	4,738.46

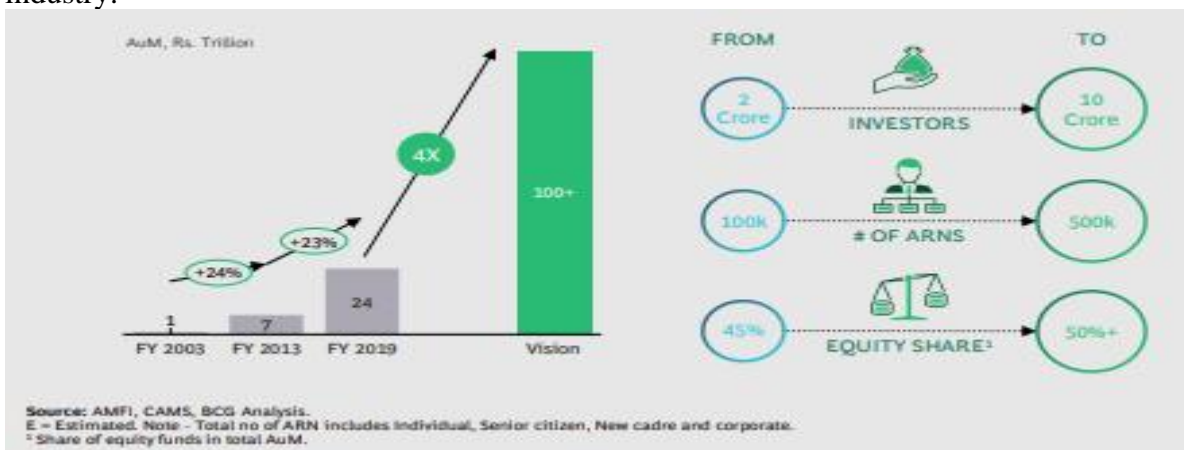
From the above table, it is clearly seen that after the declaration of lockdown by India, all the mutual funds have started a decline in Net Asset Value.

6. VISION 2025- MUTUAL FUND INDUSTRY

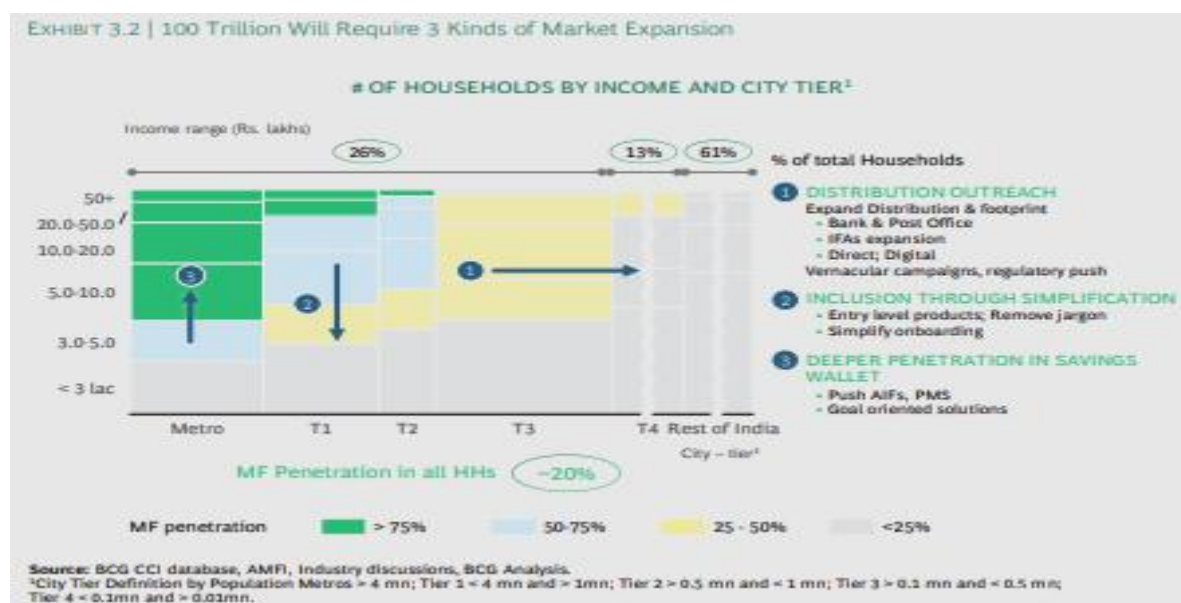


While there has been a positive shift in overall household penetration, it is important to improve the penetration levels in the middle of the income pyramid. The >INR 10 lakh income segment accounted for ~10% of all households while the INR 3-10 lakh income segment accounted for ~37% of all households in 2018. These figures are expected to increase to 17% and 46% respectively by 2025. Overall, the mutual fund industry has seen a large shift across multiple dimensions:

- Individual investors growing faster than institutions with over 58% share in industry
- Equity overtaking other asset classes to become the prominent asset class
- Digital gaining traction, however, retail and HNI investors continue to rely on intermediaries
- Middle segment of the income pyramid to be increasingly relevant in future The attributes outlined above will be important to create an appropriate platform for the future growth of the industry.



The Indian mutual fund industry has seen tremendous growth in the last few years. However, the industry continues to be under-penetrated as compared to other large nations. AUM of mutual funds as percentage of GDP is at half or one third of other developed countries like US, Canada & UK and emerging markets like Brazil. Further, our estimates indicate that the mutual fund penetration across all Indian households is at <10% today. It is also under-penetrated in comparison with other financial services in India such as banking and insurance. India’s asset management industry has the potential to reach INR 100 trillion of AUM in the twenties.



Achieving the INR 100 trillion milestone will require a significant shift in the shape of the industry. Such a significant shift will include:

- A 5x increase in investor base from 2 crore investors today to 10 crore investors
- Adding ~4 lakh new channel partners and investing in building a sustainable distribution network
- Equity to constitute >50% of AUM (vs. 45% share today) Reaching the 100 trillion vision will require various kinds of market expansion as shown in Exhibit 3.2:

1. Distribution outreach—increasing reach beyond metros and tier 1 cities.
2. Inclusion through simplification—expanding coverage to middle income households.
3. Deeper penetration into the savings wallet of existing and new investors.

7. CONCLUSION

Though the mutual fund industry has recorded significant progress on all fronts, yet it has not been able to utilize its potential fully. On almost on all parameters, it is far behind the developed economies and even most of the emerging economies of the world. The industry is confronted with a number of challenges like low penetration ratio, lack of product differentiation, lack of investor awareness and ability to communicate value to customers, lack of interest of retail investors towards mutual funds and evolving nature of the industry. Apart from this, the mutual fund industry has to continually deliver superior risk-adjusted returns to the investors. This would require the fund managers, on the one hand, to exhibit superior stock selectivity and market timing performance consistently and on the other hand to keep the fund costs under check.

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Embracing Change and Transformation in Marketing Management - Vision 2025

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ABSTRACT

Amidst swiftly changing marketing trends and consumer expectations, conventional marketing rules and clichés no longer hold any ground. The new era of the 21st century has placed a huge responsibility on marketers to not only be creative in delivering content but also target relevant customers through effective touchpoints. Apart from having innovative and analytic minds, marketers have to be up to date with the continuously changing marketing landscape. If you run a business, you have a hard nut to crack too. Meeting the expectation of today's consumers is a complex process that requires adjusting one's efforts to emerging trends. Being first, or among the top marketers, gives a competitive advantage. It's 2021, the pandemic's changed a lot, and the future of marketing needs to predict well in advance to achieve our mission by 2025.

Keywords: Virtual, machine learning, customer, chatbots, society

1. INTRODUCTION

Marketing is a key element in the success of a firm. Marketing supports the firm's growth and profitability. It arises from the fact that it involves several processes that are aimed at delivering value to the customers. Through marketing, a firm can create a mutually beneficial relationship between the firm and the various stakeholders. To be successful in its marketing processes, a firm must encompass the concept of marketing management. It's one of the most fascinating, as well as challenging, times to be working in the marketing domain. Catching attention and connecting with 2021 digitally savvy consumers to drive the message home is not so easy.

2. THE OBJECTIVE OF THE STUDY

- To study how new era shall place new demands upon marketers.
- To study how a marketing landscape can undergo a tectonic shift, its near future looks significantly different from its current state.
- To study how marketing managers evaluate various tools to offer more interactive, engaging, and personal experiences to their customers.

3. RESEARCH METHODOLOGY

The research methodology is qualitative with secondary data to study and embrace change and transformation in marketing management by 2025.

4. OBJECTIVES OF MARKETING MANAGEMENT

Marketing management is aimed at attaining the following objectives as given below -

4.1 Creating a higher level of customer satisfaction

To achieve this, firms conduct thorough market research to effectively identify the customers' needs. As a result, firms can line up their production and distribution processes with the needs of customers.

4.2 Increasing firm's market share

One of the ways through which marketing management ensures the attainment of this is by improving its sales volume. Several strategies are adopted towards the achievement of the same. Examples of such strategies relate to organizing exhibitions, presenting free samples, offering sales discounts, and sales promotion.

4.3 Increasing the firm's level of earning

All the activities related to marketing management are focused on increasing the firm's level of earnings. This is consistent with the firms' profit maximization objective.

4.4 Serving the society

Apart from making sure that the firm's marketing activities contribute towards the achievement of its objectives, marketing managers are charged with the accountability of ensuring that the firm meets its social obligation.

This is achieved by formulating policies that result in the production and supply of high-quality goods and services at reasonable prices. Besides, marketing management is also aimed at ensuring that the firm delivers all the pledges it makes in the process of publicizing its operations.

5. KEY TRENDS THAT WILL SHAPE THE FUTURE OF MARKETING IN 2025

5.1 AI-first approach

AI and machine learning have been at the top of every marketing trend list these days. From permitting more precise, real-time analytics and measurement; improving customer experience and support; improving product line pricing strategy to minimizing customer churn, AI and machine learning bring substantial benefits to marketing. AI-powered chatbots are being looked at as the next significant thing in customer relationship management as they can identify complex requests and personalize responses.

5.2 Voice Marketing

The increasing use of voice assistants by businesses of all sizes has opened new doors of opportunities for marketers. Many marketing experts are placing massive bets on voice assistants being the future of marketing as it lets contextual interactions with users and customers. Many enterprises are relying on voice-enabled technology as a tool that can assist them to promote personalization to a whole new level entirely.

5.3 Virtual Reality will make a huge impact

As marketers remain to look for tools to offer more engaging, interactive, and personal experiences, virtual reality appears as a clear winner. By permitting storytelling to engage, virtual reality enables users to connect with a brand with emotional intensity unimaginable with traditional media. It places the brand nearer to the customer and reinforces brand loyalty. Leading automobile makers and smartphone manufacturers are already at the forefront in using virtual reality for delivering overall interactive experiences

5.4 Data will drive key marketing decisions

Huge, untargeted broadcasting will become outdated and data will be at the heart of marketing strategy. Data is all over, which gives us key insights into customer expectations and buying patterns. As more and more devices—right from cars to home appliances continue to be connected—it will provide brands the opportunity to create smarter, customer-centric communication. By 2025, marketers will be slicing and dicing metadata for actionable insights and extremely specific marketing. Brands will use complicated combinations of personal data, location data, and environment data to aim their customers with the right message at the right time on the right device.

5.5 Blockchain's potential will be delved into

Blockchain is the latest buzzword around and is being hyped as a technology that can bring dramatic transformation to a wide range of industries. Marketing is nowhere distinct. With blockchain, marketing can tackle some of its biggest concerns and challenges. Determining privacy concerns, rising transparency in terms of identifying bots, and building consumer trust are some of the key areas where blockchain's potential is being evaluated presently. As with any emerging technology, there will be some challenges, difficulties, and learning in adoption.

6. CONCLUSION

In short, the success of a firm is dependent on its marketing efficiency, which arises from the fact that the firm can align its operation with changes in the environment. Through marketing management, a firm can be able to improve its ability to succeed in the long term as a going concern entity. It is because marketing management is directly associated with other management functions such as planning, staffing, directing, coordinating, and organizing. Considering the dynamic nature of the business environment, marketing managers are increasingly focusing on several elements such as ensuring that the firm offers high-quality products. Marketing managers are now ensuring that all the firm's operations are focused on value addition. Establishment closeness with the customers, suppliers, and other intermediaries is also one of the trends which will be witnessed in the business field. Besides, there is also a trend whereby marketing managers are being concerned about increasing customer satisfaction. As a result, firms are growing their attention on retaining their customers.

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Green Technology: A Contribution to Environment Sustainable Development in India

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ABSTRACT

This research explains the concept of green technology and initiatives and practices that are developed by some companies in India. Green marketing is a concept which has gained particular attention in India and the modern world in the face of changing global environmental scenario for sustainable development. Consumer attitude towards green lifestyle has been changed because of increasing awareness of environmental issues. Green Technology involves a various range of activities that involves product modification, changes in the production process, packaging changes, Recycling, waste management and Wastewater treatment. This research highlights the companies in India which have applied great environmental initiatives.

Keywords: *Green Technology, Companies, Environment, Sustainability, Consumer.*

1. INTRODUCTION

Going green is not a choice but a need for humanity continuous existence. Green technology is the technology which is environment and eco-friendly, developed and used in such a way so that it should not disturb our environment and conserves natural resources which lead to sustainable development.

At the present time industries consume more energy than what it is essential, so it leads to more pollution. That's why it is needed to have a managerial system based on green processes and products to decrease the pollutions. Governments, corporations and industries all around the globe seeking for methods and techniques to diminish the waste, because the earth's environment is not in a proper situation today in terms of pollution for instance: water contamination, global warming and forest disappearing which are main difficulties for environment., green inventions are environmentally friendly inventions which often include energy efficiency, recycling health and safety concerns, renewables and more. The world has its fixed number of natural resources which some of them are already depleted or destroyed.

Some people refer green technology as clean technology and environmental technology which is intended to protect environment and mainly to conserve natural resources. Green technology is created on the four pillars on various sectors. Government takes initiatives to promote green technology and introduced many fiscal incentives that generate electricity from renewable sources. sales tax exemption and Import duty for solar systems equipment, sales tax exemption for the purchase of solar heating system equipment from local manufacturers.

Green Technology is the development and application of products, equipment and systems used to conserve the natural environment and resources, which minimize and reduces the negative impact on environment by human activities. Following criteria refers green technology:

1. It minimizes the degradation of the environmental segments and natural resources;
2. It has zero or low greenhouse gas (GHG) emission is safe for use and promotes healthy and improved environment for all forms of life;
3. It preserves the use of energy and natural resources;
4. It promotes the use of renewable resources.

The following are the goals of green technology.

- To meet and cater the needs of society in such a way without damaging or depleting natural resources on earth is the main objective of green technology.
- To meet present-day needs without making any compromises. Focus is being shifted on making products that can be fully reclaimed or reused. By changing way of production and consumption, steps are being taken to reduce waste and pollution, as one of the important goals of green technology.
- It is vital to develop alternative technologies to prevent any further damage to health of human beings and other living beings and its advantages and their disadvantages of the green technology

2. OBJECTIVES OF THE STUDY:

The following are the objectives analysed through this study-

1. To understand the concept and need for Green Technology.
2. To understand the eco-friendly practices of Indian companies.
3. To analyzed the steps taken by the government towards a Green India
4. To understand the challenges of Green Technology.

3. LITERATURE REVIEW

Neeraj Kumar Sharma (2015) points out that environment issues like Global Warming, Waste Disposal, etc. Has led to the usage of Green Marketing practices but there is still hesitation in the minds of companies that the green marketing practices may increase production costs and reduce profits. This article gives examples of Indian firms that have achieved a good number of profits and customer satisfaction while going green. According to Douglas, the awareness of public towards the importance of environment has increase due to the climate changes that cause by pollution and the decrease of natural resources in the Earth. This will be a serious matter that will affecting everyone. Therefore, green will be the trend in construction projects in the future. By implementing the green practices in construction site, the awareness of construction industry will increase and mitigate the pollution that cause by construction works. According to A P Mani and S Bhandari (2019), Green Technology gained exceptional popularity because of environmental concerns and as a result, a new segment of green consumers was identified. The companies banked on this opportunity by providing to this newly discover segment a variety of innovative green practices. According to B Pal and C Sarin (2014), have discussed consumer responses to the GO GREEN campaign.

4. WHY GOING GREEN IS IMPORTANT-

The continued depletion of natural resources led corporations that have large energy requirements to become more environmentally aware than ever. As the environment is full of pollution and hazardous there is an urgent need to adopt the green environment before the things get worsen., Green initiatives also help to create brand recognition among customers.

The main goals of green technology are

1. **Sustainability-** Meeting the needs of the future without damaging or depleting the natural resources. Source reduction – The wastes and pollution to be reduced by changing the production and consumption patterns.
2. **Innovation –** Developing alternative to technologies to prevent further damage to the health and environment.
3. **Viability-** Economic viability of technologies and products that benefit the environment and truly protect the planet.

5. RESEARCH METHODOLOGY

As primary data was not possible during this covid-19 situation, only secondary data were collected from different authentic journals, reports, search engines, company websites and scholarly articles, research papers, and other academic publications related to green technology. In present scenario plays a vital role in nation's economic growth towards sustainability in the present and as well as future to enable a clean and healthy environment. Going green makes the environment nontoxic and environment friendly and does not pollute as it is necessary in this present situation to protect the environment.

6.MAJOR SECTORS OF GREEN TECHNOLOGIES

1. **Energy Sector:** Green technology is applied in energy extensive industries such as iron and steel, cement, pulp, paper, and other. Green Technology can be applied in all sectors of energy consumption and energy demand management programs.
2. **Building Sector:** Green technology plays a vital role in building sector. It makes the building more energy- efficient and sustainable. Many aspects of the building construction are entrusted to be chosen as sustainable and energy- efficient as far as possible.
3. **Water and Waste Management Sector:** Green Technology is used in the management of water and use of water resources by recycling them by cooling the plants, construction of buildings and concrete mixings.
4. **Transport Sector:** Green transportation is used for reducing the damage of environment from the vehicles of car, bus and public road transport. The vehicle users can shift their focus from fuel to green cars.

7.BENEFITS FROM GREEN TECHNOLOGY ADOPTION

Green technology offers a lot of benefits like recycling, purifying of water, air, conserving energies and protecting the ecosystems. Green technology does not emit any harmful pollution into the air and protect the environment and preserves the natural resources. By adopting green technology, the global warming effects can be minimized by reducing CO² emissions. By focusing on this type of production, the company can reduce the input costs, energy costs and operating, maintenance costs and electronic waste clearance which can increase a company's competitive position. In order to minimize the degradation of environment the concept of green technology should be adopted.

8. TOP GREEN COMPANIES OF INDIA

India is making rapid progress in industrialization. Many companies have voluntarily come forward to preserve the ecosystem and have taken a greener approach towards success. The top green companies in India:

1. WIPRO

Wipro announced an electronic waste clearance service in the year 2006 for its customers. In June 2008, it revealed an enterprise-wide charter called eco-eye to promote ecologically sustainable business practices. The eco-eye blueprint embarked several goals to reduce the organization's carbon footprint, manage its water and energy efficiently, develop new benchmarks in recycling waste, minimize the use of hazardous substances, and encourage employees to follow green practices in their professional and personal lives. The scope of Wipro's green technology initiatives included its internal infrastructure and operations; environment-friendly products, green computing solutions, and take-back services for its customers; as well as advocacy for e-waste legislation.

2. ITC

ITC's rigorous emphasis on minimising the environmental footprint of its operations and replenishing resources through largescale resource management initiatives within. It has adopted a low carbon growth plan as part of its multi-pronged strategy to combat climate change - maximising the use of renewable energy and sharpening energy efficiency in all units are important elements in this action plan. Currently, around 41% of ITC's energy comes from renewable sources - biomass, wind and solar. Several ITC units, including a number of top-rated super-luxury hotels, already meet their entire energy need from self-owned wind farms.

ITC also constantly attempts to reduce energy consumption in its operations through a variety of measures, mainly by deploying cleaner, more efficient technologies and by promoting awareness and a culture of conservation in the workplace.

- Optimizing packaging.
- Resource conservation.
- Over 99% of waste generated in operations is recycled.
- Enabling source segregation of municipal solid waste.
- Facilitating collection, re-use recycling.
- Moving towards a circular economy.

3. TCS

TCS has achieved its target of year 2020 of reducing its specific carbon footprint by 50% (relative to baseline year 2007-08). TCS has reduced specific energy consumption, which is the biggest contributor to TCS carbon footprint, by over 51.4% over the baseline year.

4. ICICI Bank

Green Products & Services-

1. **Instabanking** - Bank has provided a variety of services under one roof and gives customers to convenience banking anytime anywhere through Internet banking, Mobile banking, Tab banking and Interactive Voice Response (IVR) banking. This has reduced the carbon footprint of the customers because they do not have physical statements or travel to their branches.

2. **Electronic Branches-** Banks have set up fully electronic branches where the customers can conduct all their banking transactions.

3. **E- Drive-**Bank has sent nearly 200 thousand annual reports in electronic form and bank have saved more than 60 tonnes of paper in the last quarter by sending e-statements to more than 6.5 million bank accounts and 300 thousand credit card customers.

4. **Vehicle Finance** - Bank encourage to customers to use environment friendly vehicles by offering 50 percent waiver on processing fee for those car models which uses alternate sources of energy like the Civic Hybrid of Honda, Tata Indica CNG, Reva electric cars, Mahindra Logan CNG versions, Maruti's LPG version of Maruti 800, etc.

5. **Home Finance** – The banks have reduced the processing fee for purchasing homes in Leadership in Energy & Environmental Design (LEED) certified buildings.

Green Engagements

1. **World Environment Day'**- Bank has celebrated World Environment Day every year on 5th June. On the occasion, bank has undertaken sapling plantation drive, along with PUC drive where employees were encouraged to get their vehicle's PUC checked and vendors were set up

2. **'Go Social'** campaign was launched for employees where every individual could post pictures of their green initiative on Facebook and twitter, and spread the word to families and friends to join in the journey to Go Green.

3. **'World Environment Week'** - Continued from June 09 to 13 with each day of the week representing a different green theme: No plastic day, Reuse paper day, Carpool day, Duplex printing day and Save energy day.

4. **'Solar Branches'**- Solar power is a source of renewable and non-polluting clean energy. Under the Bank's Go Green initiative, about ~300 rural low-cost branches have been fitted with solar panels. As a result, bank has generated 1440 units of solar energy per branch annually which led to the energy consumption cost has reduced considerably.

3. **Green Communication-** ICICI Bank has extensively capitalized the existing internal media and always insist to customers about Online Bill pay, Online Funds Transfer and Subscribing to e-statements for paperless" and "commute-free" mode of conducting banking transactions'.

9. CHALLENGES TO GREEN TECHNOLOGY

From a company's perspective, the following are likely barriers to adopting green technologies:

1. **High Implement Cost:** The initial investment and the implementation cost of green products are very expensive when the demand for that particular product is low.
2. **Lack of Knowledge/awareness:** The concept of green technology is not that familiar; the consumers are not aware of this technology.
3. **Time Consuming:** Green technology is a time-consuming process as it takes time to adapt to green lifestyle.
4. **Lack of skills:** There is no proper training to implement this technology.
5. **Alternative process technology is not known.**
6. **Uncertainty about performance.**
7. **Attitude and Market** There are old generation workers that are full of experience in the construction site and they are refusing to learn the new things and technology. They believe that the traditional method is the best for the construction work.
8. **Overcoming these barriers is a complex process** because it can involve a large number of parties, ranging from government, private sector, and NGOs to financial, research and educational institutions. Promoting green growth requires identifying and removing these barriers that hinder the large-scale dissemination of clean technology.

10. GOVERNMENT ROLE IN GREEN TECHNOLOGY

Climate change is fact and it is high time that nations and international organisations act on the ground. According to international report, India's position of Global Environment Performance Index fell from 141 in 2016 to 177 in 2018. every individual should be responsible for safeguarding our environment, government initiatives have played a huge role in helping find solutions to the problem. From building toilets to cleanliness drive through the Swachh Bharat Mission, the Modi government has time and again garnered people's attention and support for the right cause. some of the existing environmental initiatives by the government and their impact.

- Namami Gange Programme
- Green Skill Development Programme
- Swachh Bharat Abhiyan
- Toilets before temples
- Compensatory Afforestation Fund Act (CAMPA)

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HR 2.0: Reinventing HR Management post COVID-19

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ABSTRACT

The year 2020 had been a landmark year for the human race. It has impacted personal and professional life of people. The definition of employee experience that organizations had been living has turned broader as 2020 unleashed two very important aspect of employee experience: Health and Wellness. The pandemic taught many lessons and the most important of them was to give a priority to health, safety and wellbeing. The organizations have also accepted and incorporated it as a human resource management practice. Other than this, this year was also a year of digital transformation as it provided the masses a 'Work From Anywhere' environment. The research paper tries to study the new face of HR management in the light of these digital transformations. The paper aims to give a post Covid perspective to HRM.

1. INTRODUCTION

COVID-19 has brought a sea change in all walks of life and across all sectors. The most difficult part was played by the HR Teams of the organizations and provided the employees, response and assistance amid this pandemic. HR department faced many challenges and had to renew their working guidelines. Providing infrastructure and social support was a major challenge amongst others. Keeping the employees motivated and high spirited in the pressurized and depressing period was also a big challenge for the HR teams.

With the gradual acceptance developing around the globe, organizations have partially started working close to the way they did earlier but with the new set of policies. Hence the HR teams are reimagining their personnel practices.

Many new HR strategies are noted post covid-19:

Recruitment of right people is still a priority for the organizations. The remote interview methods have seen an immense success in the pandemic period and now organizations are rethinking the role of on campus interviews in the hiring process. During this pandemic, many talent gaps have been noticed which have to be filled by implementing re skilling programs. The pandemic has also posed a challenge in performance management due to the remote working of the employees. The teams must optimally utilize the employees and chalk out effective workforce plans and strategies. Hence all the organizations are trying hard to restore the equilibrium and progress by defying all odds that have arose due to Covid-19.

2. OBJECTIVES OF THE STUDY

- To study the problems faced by employees due to Covid 19
- To study the new HRM practices adopted by firms amid this pandemic
- To suggest the gaps in effective human resource management post pandemic

3. ISSUES FACED BY EMPLOYEES DUE TO THE PANDEMIC

In March 2020, when Covid-19 was declared as a pandemic by WHO, all the major organizations announced lockdown and accepted stringent measures of working. Suddenly

the focused working environment vanished, and the offices shifted to work from home in confined and secluded places. This transition has been going on from past one year. Such a long time actually brought a deep impact on all the professionals on a global scale.

As per the study published in Journal of Occupational and Environmental Medicine, the professionals have developed many health issues due to working from home during this pandemic. The major problem during work from home is the lack of job satisfaction. The employees, especially female employees, who have young kids can't concentrate and focus on work due to kids being around. The pandemic has also brought a major impact on the lower annual working groups. The pandemic has also led to an increase in the instances of depression due to lack of job security, lower job vacancies and also lower profit. Many organizations had reduced the salaries of the employees due to the hit to the profits, which has led to an increase in mental stress among employees. The pandemic has led to an increase in the working hours of the employees which has impacted the physical and mental well being of the employees. It is also increased the instances of neck pain and strain on eyes. The work from home culture has reduced the physical activity of the employees which has directly impacted the wellbeing of employees. The productivity of many employees has also reduced due to lack of dedicated workspace. Many employees have had experience technological issues while working at home during the pandemic. The lack of physical connection to co workers during the pandemic had led to the feeling of anxiety majorly due to lack of social support and increase in the workload. There have been no informal catch ups which is an important detrusor for the employees. Looking at these issues, it has become important for the HR terms of the organizations to reinvent HR Strategies for the employees.

4. HRM STRATEGIES ADOPTED BY COMPANIES POST COVID-19

Google

Google, being an employee-oriented organization had been a leader for safeguarding health and safety of employees during the pandemic. They recognized the importance of keeping employees connected. At Google, the employees are destressed by providing them exposure to learn different online skills and hobbies. Hence a culture of learning is maintained post pandemic. Google provides support to the employees by a creative initiative of making a mental health awareness group called Blue Dot. Also to bring a connection with newly joined employees, the program 'Virtual Coffee Ninja' is started. Google recognized the struggle many employees are going through due to loneliness and coping up with the transition. Hence at Google, managers regularly check in with their team members and hold open conversations to understand their story of transition. Google has also started an internal portal to offer tips to employees for working from remote locations like how to collaborate with team, have virtual team effectiveness and new normal work routine.

Google, being an agile organization strives to adapt to new normal by adopting these HR practices to maintain productivity of employees, enhance learning environment, ensure team effectiveness and maintaining high productivity.

Facebook

Facebook has redefined its communication with employees in times of crisis. Facebook encourages employees in affected areas to work from home. The organization is using Workplace Live Video to broadcast online summits thus cancelling in-person global conferences. Facebook has also proposed a landmark decision of asking around 48000 employees to work from home in coming decade. Mark Zuckerberg, Chief Executive of Facebook quoted that remote working is going to be a trend as well.

Infosys

Infosys had been one of the first and foremost organizations who responded to the safety of employees. The organization has enabled 70% of the employees to work from home and restricting all non-essential travel. The organization has ensured operational readiness by implementing business continuity plans. The heads of the organization have also predicted that remote working model is here to stay post pandemic. The organization has experienced a lot of mobilization as they sent laptops to employees, ensured security and bandwidth, framed new policies for work from home and also provided broadband connections and Wi-Fi adaptors.

Infosys has maintained attendance, claims and learning by the app called Infy Me

They used internal app called Launch Pad which onboarded the employees on the company virtually.

Organization has trained employees by creating a lab in the cloud. Learning of the employees was maintained even during pandemic. The organization believes that now the definition of workplace is changing. Workplace is not a place where you come to work, it's a place where people collaborate and connect. Hence in future, probably employees will come at workplace for few days in the week for brainstorming and making plans.

Infosys uses platform I Engage to set up meetings with employees and track the work progress.

The organization is known for its ethics and governance. Hence the employees are given more ownership to make them ethical and build resilient teams.

The learning of employees at Infosys has triggered during the pandemic as taking certifications has more than doubled.

The leaders at Infosys spend time talking to employees how they think and feel in order to reduce anxiety and depression of employees hence taking care of the mental health of employees.

Leadership strategy of Infosys has radically changed as there is a need of more compassionate leaders who develop resilient employees.

Conclusion

The study reveals that post covid-19, it has become important to reinvest in employees rather than just paying them well and providing a great workspace. The pandemic has made remarkable change in HRM strategies of the organizations making them understand the HUMAN angle of the employee workforce. It has made them understand that employees may have fear and issues which need to be managed by the employers. The HR teams will have to be reorient and rework their policies to accommodate the virtual work pattern.

The organizations will have to develop and maintain employee engagement practices like virtual learning and development, online family engagement practices, live sessions for new skills training, sharing best practices for maintaining health of the employees with providing guidance for exercise and meditation, informal virtual meets and more frequent social interactions.

Hence to provide uninterrupted service and high productivity in the organizations, the HR Teams will have a critical role to play in this new normal.

Suggestions

The most important aspect yet unnoticed by the organizations due to the focus on restoring the pace of growth is to bring back the forgotten and ignored work life balance of employees. Due to the infinite working freedom that technological development and work from home facility provides, the limit of working has blurred. This may impact the productivity and

physical and mental well being of employees in future. Hence, Balance is the key in reinventing HR Management post Covid-19. That will be an ideal HR 2.0.

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Inclusive Growth of India

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ABSTRACT

Inclusive growth entails comprehensive growth, shared growth, and pro-poor growth. It lessens the fast growth rate of poverty in a country and upsurges the participation of people into the development of the country. Inclusive growth infers an impartial allocation of resources with benefits incurred to every section of society. But the allocation of resources must be focused on the intended short and long term benefits of the society such as availability of consumer goods, people access, employment, standard of living etc. Rapid and sustain poverty reduction requires inclusive growth that permits people to contribute to and benefit from economic growth. Rapid growth is necessary to reduce poverty but this growth to be sustainable in the long run, it should be broad-based across sectors and inclusive of the large part of the country's labour force.

1. INTRODUCTION

The explanation of inclusive growth implies a direct link between the macro and micro determinants of growth. The micro dimension denotes the importance of structural transformation for economic diversification and competition, including creative destruction of jobs and firms. Inclusive growth is defined by many academicians as the pace and pattern of growth, which are considered interlinked, and therefore in need to be addressed together.

UNDP has described inclusive growth as “the process and outcome where all groups of people have participated in growth and have benefited equitably from it”. This inferred that inclusive growth should include all sections of society as recipients as well as partners in growth and that inclusion of the excluded should be embodied in the growth process. According to Basely et el (2007), inclusive growth is the “ growth that has a high elasticity of poverty reduction”, i.e.it should have higher reduction of poverty, per unit of growth, sustainable growth record of society and it must be consistent with the growth reports. Strategies for sustained growth and inclusive development (Commission on Growth and Development,2008), the commission found in report that Inclusiveness, a concept that incorporates equity, equality of opportunity and protection in market and employment transitions is an essential element of any successful growth strategy.

The inclusive growth approach takes huge perspective as the focus is on productive employment instead of direct income redistribution, as a means of increasing incomes for excluded groups. In the short run, governments could use income distribution schemes to weaken negative impacts on the poor, but transfer schemes cannot be an answer in the long run and can be challenging also in the short run .OECD study signified that even in developed countries, redistributable on schemes cannot be only response to rising poverty rates in certain segments of population.

MEANING:

Inclusive growth is a concept that advances equitable opportunities for economic participants during economic growth with benefits incurred by every section of society. This concept expands upon traditional economic growth models to include focus on the equity of health, human capital, environmental quality, social protection and food security.

The definition of inclusive growth implies direct link between the macroeconomics and microeconomics determinants of the economy and economic growth. The microeconomics dimension captures the importance of structural transformation for economic diversification and competition, while the macro dimension refers to change in economic aggregates such as the country's gross national product (GNP) or gross domestic product (GDP), total factor productivity and aggregate factor inputs.

Sustainable economic growth requires inclusive growth. Maintaining this is sometimes difficult because economic growth may give rise to negative externalities, such as rise in corruption, which is major problem in developing countries. Nonetheless, an emphasis on inclusiveness –especially on equality of opportunities in terms of access to markets, resources and unbiased regulatory environment is an essential ingredient of successful growth. The inclusive growth approach takes a longer term perspective, as the focus is on productive employment as a means of increasing the income of poor and excluded groups and raising their standard of living in long time perspectives.

2. INCLUSIVE GROWTH WITH INDIA'S PERSPECTIVES

Within the context of India, the Indian economy, which has undergone various phases since last many decades is currently enter an altogether different path, one marked by high rate of, expansion, combined with inclusive growth. In the last few years, inclusive growth has been at the vanguard of studies supported by multilateral aid agencies such as the United Nations, the World Bank, Asian Development Bank and several non-governmental organizations(NGO).In India, governments have introduced several projects, such as Jawahar Rojgar Yojna, IRDP-Integrated Rural Development Programe, Rural Housing schemes such Indira Aawas Yojna, Swarnjayati Gram Swarojgar Yojna and MGNAREGA-2006 i.e.Mahatma Gandhi National Rural Employment Guarantee Act to promote inclusive growth in India.Nonetheless, to boost inclusive growth in a country with the scale and size of India, private sector involvement is equally important for sustainable inclusive growth. The government and private sector both have imperative roles in driving inclusive growth. There is a need for the public and private sector in India to have a combined approach towards how they can extend, innovate and cooperate in innovative ways to enhance inclusive growth.

Inclusive growth in India focussing on creating more and more economic opportunities and ensuring equal access to them will play key role in coming years. More and more countries are accepting it as the goal of development policy. India, which had poverty reduction as the main focus of its development strategy over the last 50 years, has recently switched to a new strategy focusing on two objectives that include enhancing economic growth and making growth more inclusive (Planning Commission of India 2006).Inclusive growth as a developmental notion is also being comprised by many development partners of developing countries including bilateral and multilateral aid agencies, international organizations, NGO's and Civil society.

3. NEED FOR INCLUSIVE GROWTH IN INDIA

Many intellectuals and government executives accentuated that inclusive growth is required for sustainable development and impartial distribution of wealth. For India, it is a tough task to accomplish inclusive growth. In a democratic country India, majority of population living in rural India and to bringing them into the mainstream is main concern. The challenge for Indian government is to take the levels of growth to all section of the society and to all parts of the country. The best way to realise inclusive growth is through developing peoples talents. It is said by government authorities that a multidimensional approach towards

education and skills development is essential to achieve growth. The challenge of skills shortage can be addressed through public private partnership. Since independence, noteworthy improvement in India's economic and social development made the nation to grow strongly in the 21st century. The following factors enable the India to focus on inclusive growth.

1. India is the 7th major country by area and 2nd by population. It is the 12th largest economy at market exchange rate. Yet, development is not visible in India and it's the neighbourhood nation, i.e., China is progressing at speedy rate.
2. The exclusion in terms of low agriculture growth, low quality employment growth, low human development, rural-urban divides, gender and socialine qualities, and regional disparities etc. are the problem for the nation.
3. Decreasing of poverty and other disparities and raising of economic growth are major objectives of the nation through inclusive growth.
4. Political leadership in the country plays a vital role in the overall development of the country. But, the study has found that politicians in India have a very low level of scientific literacy.
5. Studies assessed that the cost of corruption in India amounts to over 10% of GDP. Corruption is one of the ills that prevent inclusive growth.
6. Through child labour has been banned by the law in India and there are stringent provisions to deter this inhuman practice. Still, many children in India are unaware of education as their lives are spoiled to labour work.
7. Literacy levels have to rise to provide the skilled workforce required for higher growth.
8. Economic improvements in the country are overwhelmed by out dated philosophies and allegation by the politicians and opposition parties In India.
9. Achievement of 9% GDP growth for country as a whole is one of the boosting factor which gives the importance to the inclusive growth in India.
10. Inclusiveness benchmarked against achievement of monitor- able targets related to
 - a. Income and Poverty
 - b. Education
 - c. Health
 - d. Women & children,
 - e. Infrastructure
 - f. Environment
11. At global scale, there is a concern about dissimilarities and exclusion and now they are also taking about inclusive approach for development.

4. ELEMENTS OF INCLUSIVE GROWTH

Major components of the inclusive growth strategy includes a sharp upsurge in investment in rural areas, rural infrastructure and agriculture spurt in credit for farmers, increase in rural employment through a unique social safety net and a sharp increase in public spending on education and health care.

There are several interrelated elements of inclusive growth:

1. Poverty Reduction
2. Employment generation and Increase in quantity & quality of employment.

3. Agriculture Development.
4. Industrial Development.
5. Social Sector Development.
6. Reduction in regional disparities.
7. Protecting the environment.
8. Equal distribution of income.

Major elements of Inclusive Growth:

1. Agriculture Development
2. Industrial Development
3. Environment
4. Protection
5. Poverty Reduction
6. Employment.
7. Generation.
8. Reduction in
9. Regional Disparities
10. Equal distribution of income
11. Social Sector Development

INCLUSIVE GROWTH HAS MANY POSITIVE ASPECTS

1. Lower incidence of poverty
2. Broad-based and significant improvement in health outcomes.
3. Universal access for children to education.
4. Increased access to higher education and improved standard of education, including skill development.
5. Better opportunities for both wage, employment, and livelihood.
6. Improvement in provision of basic amenities like water, electricity, roads, sanitation, and housing.

For good inclusive growth there is a need of the SC/ST and OBC population. Women and children comprises for 70% of the total population and deserves special attention in terms of the reach of relevant scheme in many sectors. Physically challenged/minorities and other excluded groups also need special programmes to bring them in to the mainstream of society. To accomplish inclusiveness in all the dimensions requires multiple interventions, and success depends not only on introducing new policies and governmental programmes, but on institutional and attitudinal changes. System is continually changes. To approach paper on the 11th five year plan is titled:

“TOWARDS FASTER AND MORE INCLUSIVE GROWTH”

It reveals the need to make growth more inclusive in terms of benefits flowing through more employment and income to those sections of society which have been left out of the economic growth witnessed in recent years. The 11th plan gave a special push to several programmes aimed at building rural and urban infrastructure and providing basic services with the objective of increasing inclusiveness and reducing poverty.

MAJOR CAUSES FOR LESS INCLUSIVE GROWTH:

There are several reasons for disrupting inclusive growth are as discussed in detail below:

1. Growth has been jobless, and the employment growth has been declined for the same level of economic growth. Despite of remarkable growth which has made India the world's fourth biggest economy," employment in different sectors has not been rising. This jobless growth in recent years has been accompanied by growth in casualization".
2. Growth has been uneven or unequal across sectors, location and hence rising regional imbalance in India. For instance, agriculture has been lagging behind and in countries such as China, some regions have advanced faster than others. Policies are also relatively ignored the agriculture sector.

Rapid rate of Globalization:

Due to trade competitiveness, foreign direct investment and new technology has demanded skilled labour. In some cases, labour laws are also often discriminate against formal employment and encourage 'casualization of labour'.

1. In India, there is need to create large scale jobs otherwise growth becomes, lower down. Millions of people are looking for structured work and unable to find it. The problem becomes more persistent when one factors in India's perspectives demographic "bulge" in the coming decades, as ever-increasing number of young people join the workforce every year before fertility rates fall and the population stabilizes around 2040 at about 1.5 billion. Economists project is as a "DEMOGRAPHIC DIVIDEND" could turn out to be a period of crisis marked by sheer unemployment and rising social unrests.
2. In Indian land, 60% of population is directly or indirectly dependent on agriculture. But the growth rate of agriculture is miserable, just 2%.Policy makers and government officials need to work on agriculture productivity, in order to be more inclusive. Lack of access to credit for agriculture and small and medium enterprises and lack of social protection have all contributed to the exclusion of deprived groups from the growth scenario.
3. A major weakness in the Indian economy is that the growth is not perceived as being adequately inclusive for many groups, especially Scheduled Castes (SC'S), Scheduled Tribe's(ST's) and other weaker sections.
4. Gender inequality is also a major problem and some of the structural changes taking place have an adverse effect on women. Growth will not be inclusive if some groups are discriminated against caste, class, religion, gender, region etc. Empirical evidence across the globe designates that group discrimination is largely on the basis of caste, ethnicity, gender and religion. These groups cannot be ignored for good inclusive of country.

Need continuous efforts to overcome this situation:

To overcome this situation we all need to be work collectively to have a sustainable and inclusive growth of country. This huge task cannot be done by government alone. Industry and civil society must partner with government to drive inclusive growth. Issues like income disparities and growing aspirations of many people must be collectively resolved by the government and society.

4. CONCLUSION

To conclude, Inclusive growth is a notion that enables unbiased opportunities for economic participants during economic growth with benefits incurred by every section of society (Ranieri, 2013). Inclusive growth is the progress that reduces inequalities among per capita incomes in agriculture and non- agriculture, in rural and urban areas, and in different socio-economic groups, particularly between men and women and among different ethnic groups. The result of inclusive is lessening in vertical inequalities (group inequalities). In the context of India, its economy has grown at a remarkable pace since last decades as a result of numerous structural reforms to open up the economy and make it more competitive. Currently, activity has slowed that reveal not only the weak global environment but also the emergence of strains created by the pressure that rapid economic growth has put on energy, natural resources, infrastructure and skills.

Institutions, regulations and economic governance need to acclimate to maintain the economic transformation required for India to tackle its social and economic challenges. According to business leaders and economists, to boost productivity and promote the development of the formal sector, there is need to take adequate steps to strengthen business environment and support the introduction of new technology, including through fostering competition, further reducing international trade and investment barriers and improving of corporate and public governance.

This all steps must be necessary for sustainable India's inclusive growth for upcoming generations in future. This will also help India for its global political and economic leadership. Inclusive growth is necessary for just and equitable society based on equality and freedom. It will also create more employment opportunities by increasing infrastructural development. This process is must for India's growth and development, this will also increase to social and financial inclusiveness incoming India.

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IoT Based Smart Agriculture Monitoring System Using Arduino Uno

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ABSTRACT :

The paper represents the concept of featuring smart agriculture monitoring system which is embedded with arduino, sensors, actuators and mobile connectivity. It reflects the future scope of the smart agriculture with wide usage of advanced farming equipments. This paper demonstrate the idea of transformation to fast advance farming from the old culture farming.

Keywords: Arduino uno, Sensors, Actuators, Android, IOT.

INTRODUCTION

Agriculture is done in every country from ages. Agriculture is the science and art of cultivating plants. Agriculture was the key development in the rise of sedentary human civilization. Agriculture is done manually from ages. As the world is trending into new technologies and implementations it is a necessary goal to trend up with agriculture also. IOT plays a very important role in smart agriculture. IOT sensors are capable of providing information about agriculture fields. we have proposed an IOT and smart agriculture system using automation.

This IOT based Agriculture monitoring system makes use of wireless sensor networks that collects data from different sensors deployed at various nodes and sends it through the wireless protocol. This smart agriculture using IOT system is powered by Arduino, it consists of Temperature sensor, Moisture sensor, water level sensor, DC motor and GPRS module. When the IOT based agriculture monitoring system starts it checks the water level, humidity, and moisture level. It sends SMS alert on the phone about the levels. Sensors sense the level of water if it goes down, it automatically starts the water pump. If the temperature goes above the level, fan starts. This all is displayed on the LCD display module. This all is also seen in IOT where it shows information of Humidity, Moisture and water level with date and time, based on per minute. Temperature can be set on a particular level; it is based on the type crops cultivated. If we want to close the water forcefully on IOT there is button given from where water pump can be forcefully stopped.

2. OBJECTIVES

- Implementation of Growing Technologies in Agriculture.
- Reduce the human power with automations.
- Maximized productivity and Less time consumption.
- Improved quality as we growing toward smart farming.
- To stay updated with fields crop conditions.

2.1 Purpose

The agriculture is one of the important field or sector which needs to stabilize the global market. The demand of agriculture is much more increasing day by day. But the main problem is that it is the slowest process of working with old farming methods.

To overcome little bit on this problem we can accelerate the farming process with the help of advanced technologies to make a smart agriculture. Which includes usage of Sensors, Applications, Automatic machines , etc .

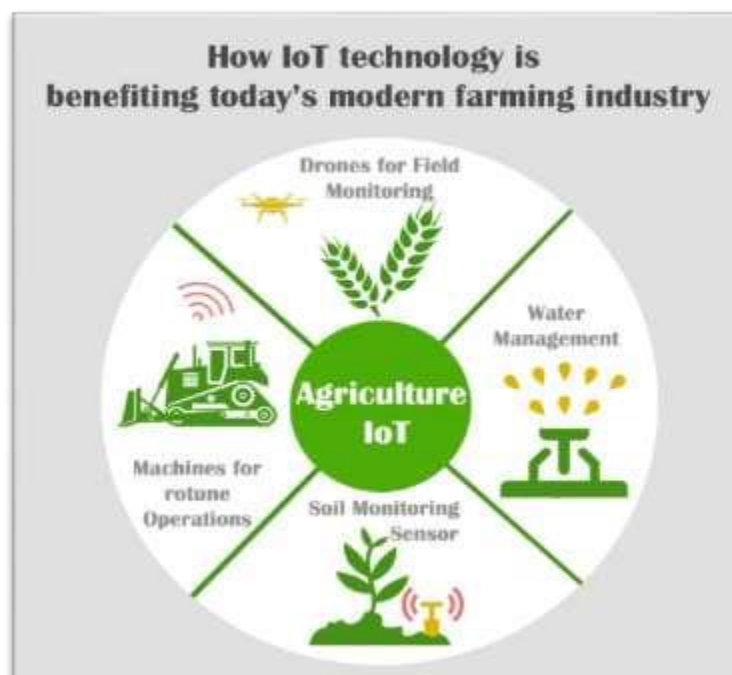
We know that there is a huge need of human power in the agriculture, but the cost of workers or labours is increasing as well. So, we can invest that money on the smart agriculture Appliances needed in farm.

Farmers gets updates of fields time to time on their mobile phone so there will be awareness to the farmers which leads to reduce to any damage to crops.

2.2 Scope :

The Iot can perform vital role in agriculture with various forms. IoT binds the real-world things in a network that are useful and convenient to perform the task. This Monitoring System has some sensors and actuators to perform given task but we can also use Various Control Systems, Autocoups Vehicles, Automated Hardware, Drones, etc to make a Advanced Farming.

- Monitoring Systems keep the regular data of equipment's so we can schedule the maintenance for machines.
- Optimal use of water supply that can reduce wastage of water & overhead expenses.
- Estimating correct planting time.
- Climate conclusion with the help of relevant sensors data.
- Monitoring System can be used in greenhouse automations and control systems.
-



3. IMPLEMENTATION

3.1 Problem Definition:

The Agriculture is one of the hardest fields to work. It needs more human power to manage lots of

different tasks. That's why the growing technologies can overcome the hardworking problems and can give a suitable output.

Due to the lack of usage of advanced equipment's in farming, the productivity of agriculture doesn't match to the actual expectations. So we can use various aspects of IoT's in smart agriculture. There are lots of things that can be Automate and taking the perfection in the output of that work rather than manual.

Due to lack of accurate information about the field, weathered, the farmers are not able to do the pre planning for the crops. So, with the help of this system, he can monitor the field condition very well by getting a notification on his phone.

3.2 Preliminary Product Description

The core of this project is an Arduino which will manage the overall functionality of the model. We used some sensors here to access the inputs from environment. The Temperature sensor, Soil moisture sensor, water sensor. Temperature sensors will give the data of current temperature, Soil moisture sensor will detect whether the soil is getting dry and water sensor will inform if water has gone down from particular level.

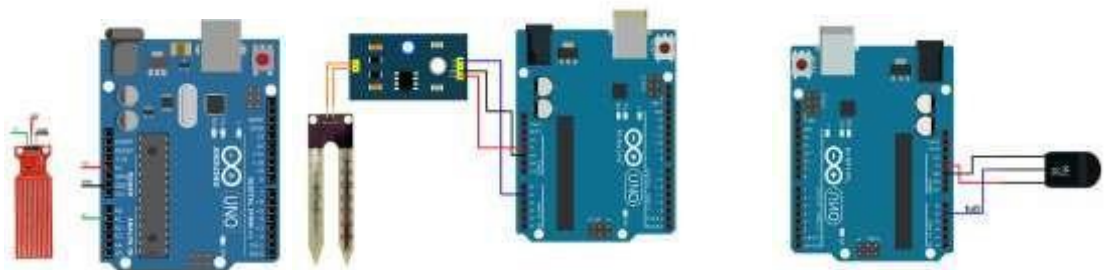
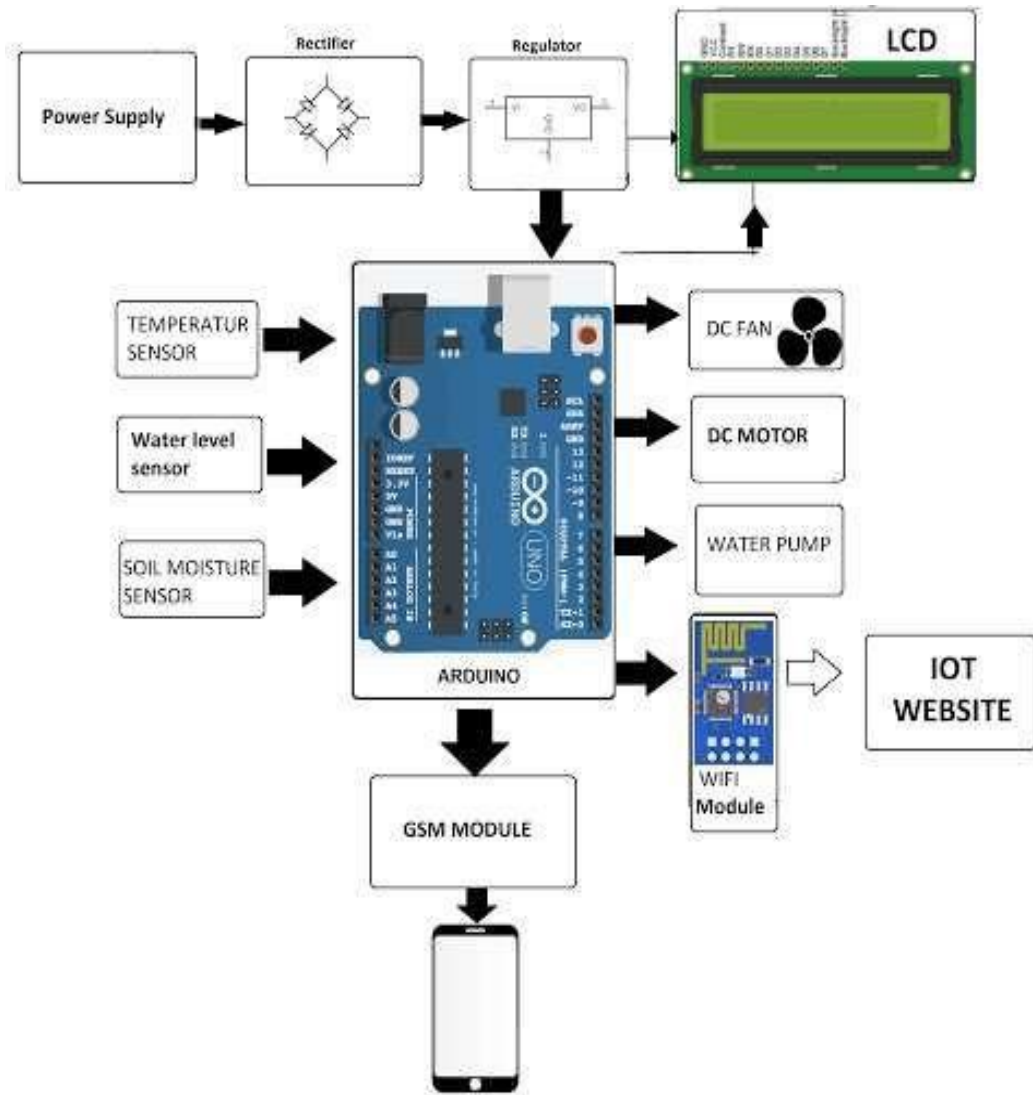
The Arduino will get the data from these sensors and will give the preloaded commands to the actuators.

If temperature will be high, then fan will run automatically. The DC motor will get turn on to regulate the water if water from the water tank has been goes down. The water pump will regulate the water whenever soil will get dry. These all data is displayed on the LCD screen allocated in the farm. And the GSM module will notify these data of farm through mobile device.

The all changes or the data of sensors can be monitor on our mobile device. We can see the sensors data through android app so it will be helpful for the farmers to know their field conditions.



Block Diagram:



Water Level Sensor Soil Moisture Sensor Temperature Sensor

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IT – A Tool to Accelerate the Pace of Education

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ABSTRACT

Education is an essential aspect for personal growth both internal and external, social development, national prosperity and global civilization. Many factors affect the education and education system as a whole and Information Technology is one of them. Information Technology provide the base and platform through which education can be imparted in a more clear, concise and faster way. IT in itself is a vast field covering many tools and techniques. This paper focuses on some important and latest technologies which is affecting education at 360° dimension. This paper covers cloud-based services(virtualization), Geographic Information System, Integrated Development Environment and Online platform in relation to education. Aim of this paper is to enhance the understanding and application of these technologies which can be used as a significant tool to support, accelerate and impart education. Education sector can reach to the greater height by 2025, by holding the hand of technology.

Keywords: *technology, Tool, Education, Cloud, Geography, Information, Internet, Services*

1. INTRODUCTION

Education one of the basic needs of every human being, has undergone several changes, from the time when education was given under a Peepal tree in Gurukul to the today's time where it is given by someone who is sitting 1000's of Kilometres apart in some other part of the world. The world has become a global classroom. There are several factors that has contributed to the growth in the education sector, but the main credit goes to Information Technology. Technology has empowered education sector. Technology means anything that accepts, stores, manipulates, analyses and present information in digital format. Technology in itself is a vast field covering Artificial Intelligence, cloud computing, Geographic Information System, Big Data, bots, Integrated Development Environment, Internet, augmented and virtual reality, Natural languages etc. Over the past few decades, we have seen a rapid development in the technology. IT has provided such a strong infrastructure on which education sector is growing and will grow at ever increasing rate. In the coming years artificial intelligence, augment and virtual reality will take a lead. By 2025 everything will be connected by data and smart either it is classroom, exam assessment, management, degree distribution etc. It won't be wrong to say 2025 will be true digital era and will empower students to be employed and successful.

2. TECHNOLOGIES, THEIR USAGES AND BENEFITS

This section focusses on selected technologies, their purposes, relation with education sector and their future prospects.

2.1 Cloud Computing

- Cloud computing refers to on demand services provided over the internet. It provides three types of services – Infrastructure as a Service, Platform as a Service and Software as a Service. These capabilities are stored remotely at the server and provided to the client through internet on demand.
- Education sector has enormously benefited from cloud-based services. It has reduced the necessity for infrastructure.
- Cloud computing in education sector helps students, teachers and administrators in the same way. Cloud computing allows students access to homework, perform and submit wherever there's an internet connection, teachers can instantly upload assignments, learning materials and administrators can easily team up with one another and save money on data storage.
- Cloud computing has brought teachers and learners together on a single, unified platform. Educational establishments such as schools, colleges, and universities don't need to buy, and maintain their own servers and data centres. Instead, they can borrow and buy cloud computing services to avail computing power, databases, storage, and other services. Cloud storage also provide data security, data is under the strict security of server.
- Cloud computing helps to reduce cost in education.
- Few examples are - The Google's G Suite apps all reside on the cloud. A special classroom version - G Suite for Education, includes extra features for apps like Google Docs, Sheets, Drive, Gmail and others. With the Explore tab, students can use natural language to input formulas in Sheets or get layout suggestions in Slides. Another product, Google Classroom, links Google's online cloud applications (like Calendar or Docs) so it's easier to complete or schedule assignments using a central hub.
- Office 365 Education is Microsoft's free of cost special version for students and educators: Office 365 is cloud-based version of Microsoft Office, which includes apps like Microsoft Word, PowerPoint and Excel. Instead of buying and installing software in hard drive, students and educators can set up an Office 365 account and save all Office documents to the cloud for easy access. Office 365 Education has additional classroom tools.
- Cloud based applications help teacher to create interactive lessons, activities and quizzes, and then assign them to students.
- Another example is Cloud Guru which is an online database system of courses designed to teach and train people in cloud computing.
- All the sectors and industries are incontestably being benefited by the Cloud technology, education sector also depend upon the cloud technology for making the knowledge sharing enhanced, empowered, and simplified.

2.2 Internet (Online Platform)

- Internet or Online Platforms has generally been a medium of communication. People from one point of the globe could communicate with someone at some other point because of the internet. But eventually because of its speed and efficiency it has

become multi-functional. Now internet is used for several purposes such as education, business, agriculture, infrastructure etc.

- Online Platforms have capacity to provide multiple applications while using them. For instance, a tutor taking a lecture online, not only can communicate with the students from distance but also can use different tools like Excel, PowerPoint, and Google Jam board to make the content and interaction more efficient.
- Online Platforms provide the flexibility of time which makes the two-way communication much easier. With the availability of virtual classrooms, the data can be stored on cloud as well as the device itself, so that it can be retrieved in no time. For instance, a student is asked to submit an assignment online, the student can have the document stored on cloud and submit it anytime.
- Reducing costs and use of other resources while surfing through online platforms have always had an edge. Interestingly, online education provides the same knowledge as traditional education but with more interactive tools, higher quality, much more definitive experience and all of that for least cost of any sort of resources.
- Online Platform has nowadays even started providing degree in almost every stream be it engineering, medical, humanities etc. which also shows not just great value but is also accessible for the people who have a low economic background. Today, a student sitting at any far end of the globe, may be a village too, can study and understand interactive and free courses from some of the world's top universities like Harvard, Stanford, Oxford, Cambridge etc. all because of the availability and efficiency of online platform.
- With platforms such as Google Meet, Microsoft Teams, zoom etc. online education has achieved new heights. Earlier students had to view pre-recorded courses and then did lack the opportunity of one-to-one interaction. But now, because of those platforms, online lectures are conducted and with a participant capacity of 1000+ and streaming services offered by YouTube and Facebook, a professor sitting at his own home, can give lectures to students across the globe.
- For years, online platforms like Udemy, Coursera, Edx and others have shown variety of contents to learn, but still their certifications lack a bit of value in the market. People still have a positive side for traditional educational approach which is great but people also do need to understand that with the pacing world, everybody needs to catch up and not everybody can travel to a better place for pursuing education at large expenses. People need to understand that online education is the only solution to this problem and the future generations depend upon it.

2.3 Integrated Development Environment

- Integrated Development Environment (IDE) is a collection of technologies which serves as a simplified mechanism in developing and testing of codes from various languages. It generally consists of word-processor, a debugger, a compiler and execution of applications of various programs.
- IDE has enhanced the ways of teaching methodology over the time in terms of programming. With more efficient technology and execution power it has to come to a point from where growth in the education sector is unshakable.
- Educators at any level have seen vast increase in the number of students who have chosen IDE for programming instead of different software's for various languages. The more a student finds it convenient to learn, the less efforts are required by the educator to teach.
- IDEs such as NetBeans, Eclipse, Visual Studio etc. are efficient in many ways be it cost, speed, storage, availability of languages etc. They are generally available for free

of cost and also do provide cloud-based data storage for specific versions as to save the space in user's device.

- Earlier, people had to install a particular application for coding in the required language and another set of applications for other purposes such as database, cloud connectivity etc. but with the increase in efficiency of IDEs, all those applications are now condensed into a single one – The IDE itself.
- Students who face trouble in getting started with new languages have felt relief in understanding and coding in them because of the interactive user interfaces of the IDEs. With the multi-lingual support available, students or coders can easily shift between languages according to their convenience without installing extra resources.
- In the coming years, it will become a necessity for coders, students and others interested in programming to use IDEs because of their speed, variety, interactive interfaces, multi-lingual support and also development of major technologies such as machine learning, artificial intelligence and others will become more convenient because of the IDEs.

2.4 Geographic Information System

- Geographic Information System (GIS) is a branch of study which uses geographic information such as maps, positional and attribute data for collecting, organizing, managing, manipulating and analysing spatial data in order to make efficient and precise decisions. It has wide applications associated to education, security, engineering, planning, management, environment study, transport, insurance, telecommunications, and business.
- Main aim of GIS is to enable students analyse data using various GIS tools and techniques for better decision making and help them in study of geographic concepts, applications, and systems.
- In the last few decades, it was only used by big organisations but now its capabilities and proficiency has made it available for common people also especially students. Today, educating students to develop better infrastructure and understand complex geographic phenomenon, GIS plays a vital role.
- At different levels, students are taught different applications of GIS and also its practical usage helps in analysing as well as predicting geographic changes across the globe. Educators find it very convenient to teach students through GIS software and also conduct practical's using the same.
- GIS has become an essential industry too. Employment and job opportunities in this sector have increased in the past decade. Several MNCs, such as Google, Uber, and Amazon now require GIS experts in order to help in various process such as supply chain and logistics, data analysis, prediction of weather phenomenon etc.
- Some commonly used GIS software's such as QGIS, ArcGIS, GrassGIS, and SAGAGIS have shown sharp increase in usage especially among students. Technologies related to planning, navigation, telecommunication etc. need GIS for better analysis and decision making and thereby students who can be future experts in the said field, need to get familiar with different tools available for GIS studies.

3. OBJECTIVE

- To illustrate that IT has helped in the growth of education sector.
- To prove that IT will help education sector to grow in all dimensions by 2025.
- To give insight how information technology has made education easily available to all
- To prove that IT has made the complicated concept simple to understand

- To show that IT has made education cost effective
- To illustrate that IT has provided global platform to the learners.
- To prove that IT has made the learning process easy.
- To show that IT helps to implement the concept with the less effort.

4. RESEARCH METHODOLOGY

To meet the objectives of this paper, the methodology is as listed below-

- Research is based on primary data, so the first step is to create a questionnaire through Google Form.
- Undergraduate students are the targeted respondents, so second step is to circulate the form and collect the data from the Undergraduate students (50 respondents approx.). The sample is a mixed collection of male and female between the age group 18 to 22 years.
- Success and quality of output is dependent on quality of input, so the next step is to prepare the data, remove any anomalies or extreme data.
- Next step is data manipulation.
- Next step is to analyse the data using various tools and techniques using Microsoft excel.
- Final step is to present the outcome with the help of tables and charts.

5. DATA ANALYSIS AND INTERPRETATION

Data analysis and presentation has been done through Google Spreadsheet. Questionnaire to meet the objective consists of nine question in varied domain. Responses are recorded in google sheet which is further analysed to derive inferences. Out of 50 respondents 30% are female respondents and 70% are male respondents.

Outcome of the responses have been summarized in the following table.

Question	Option 1	Option 2	Option 3	Option 4
How often you use technology during your education	Every time	Frequently	Some Time	Never
	74%	20%	4%	2%
How cloud services have affected the cost of education	Increased the cost	No difference in the cost	Reduced the cost	Can't say
	28%	24%	34%	14%
How Integrated Development Environment (IDE) has affected the teaching - learning and software development process	Made the process simple, fast and easy	No difference	Made the process complicated, slow and tough	
	94%	4%	2%	
Using Information Technology concepts can be understood and implemented	Very easily	Fairly good	Can't be understood	
	56%	42%	2%	
How frequently you use online platform for education	Always	Regularly	Need based	Never
	32%	50%	18%	

Online platforms for education have made teaching learning process	Effective	Non-Effective	No difference	Can't Say
	74%	10%	8%	8%
Technology provides global platform to the students	Agree	Disagree	Neutral	
	96%	2%	2%	
Information Technology has made education related content and resources easily available to all	Yes	No	Can't Say	
	92%	4%	4%	
How frequently you use cloud services (storage, online software etc.)	Always	Some times	Rarely	Never
	42%	48%	8%	2%

Table 1: Summary of Questionnaire Responses

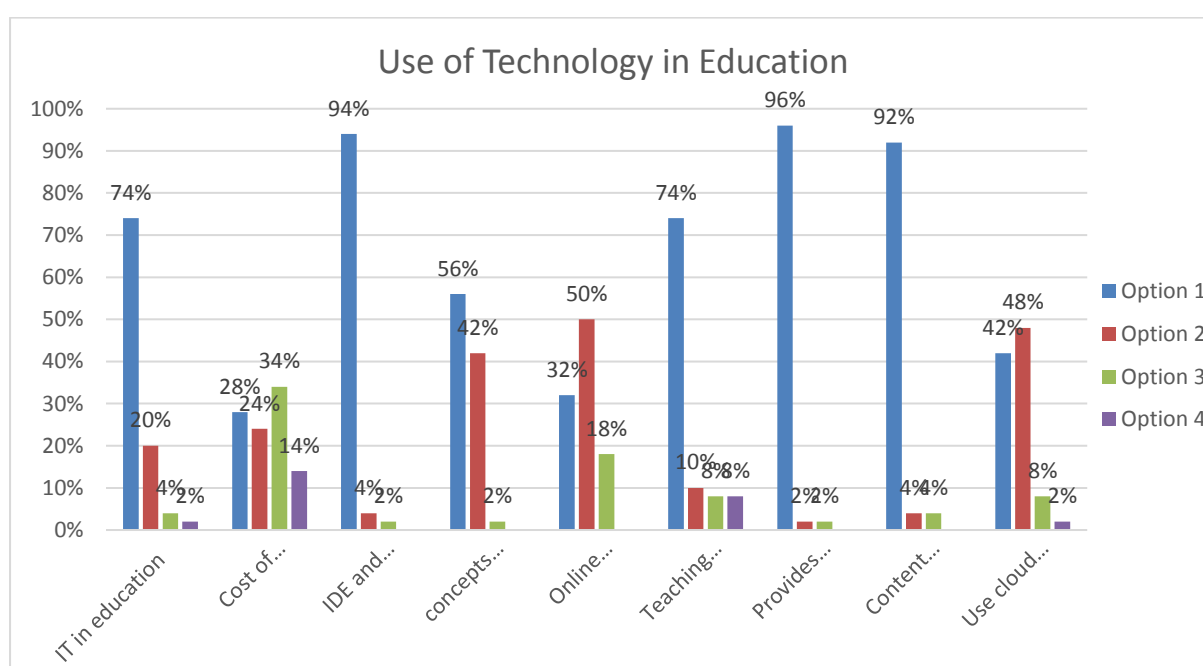


Fig. 1: Use of Technology in Education

- Above chart illustrates that 74% of the population use technology every time during their studies.
- 34% of the respondents have the opinion that the use of technology has reduced the cost of education overall.
- 94% of the respondents believe that Integrated Development Environment which is the collection of technologies at a common platform has made the education and software development process easy.
- 56% of the students are of the opinion that through technology concepts can be understood in an easy and convenient way.
- 50% of the respondents use online platform such as Google Meet, Zoom, Google Classroom and other virtual methods for education.
- 74% of the respondents believe that virtual platform either it is for lecture, assignments etc are easy to access and very helpful.
- 96% of the students agree that IT has provided global platform.
- 92% believe that online they get all the required material for their learning.

- 45% of the students are using various services provided by cloud computing.

6. CONCLUSION

In the light of above research work and discussion, it can be concluded that information technology is a tool that has been supporting and can further accelerate the growth rate of education sector. Today almost every learner, teacher and admin people use technology in one or the other way. Internet, cloud, virtualization, data house, everyday ever-growing new techniques, application, languages, IDE's, online courses, online content, online forum, online platform has provided sustainable growth to the education sector. IT has not only made the education easily available and accessible to all but also cost effective. These technologies are growing all leaps and bounds and so the education sector. Technology is providing such an infrastructure on which a strong and wide monument of education system can be built by the year 2025. By 2025 the whole world will become a classroom. Education can be made available at fingertips and 24X7.

I conclude with these words "IT is the engine of the sail boat on which Education can sail with a great pace."

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Microfinance in India

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ABSTRACT

This paper highlights the evolution of the Microfinance revolution in India as a powerful tool for poverty eradication. Where institutional finance failed Microfinance has delivered, but the outreach is limited. Microfinance programmes allow small loans to weaker section of the society by introducing self-employment generation scheme which helps them to earn revenue, an efficient tool for earning their livelihood independently. Microfinance programmes provides opportunities limited to credit but also render services in the form of skill training and development in the remote areas of our country. This paper is an attempt to find out the challenges and issues relating to microfinance.

Keywords: *Microfinance, Small Loans, self-employment, Poverty, Skill training*

1. INTRODUCTION

Microfinance was introduced in India in the 1980s as a answer to rising poverty and to empower women. It is a type of banking service provided to those who have difficulty in getting access to formal credit. The institutions supporting microfinance offer services such as providing small loans, helping to open accounts, and also providing micro insurance products. In developing countries like India, financial services through hey formal sources of credit do not meet the demands of the weaker sections of the society. So, microfinance can help the small-scale businesses to grow and thrive by providing greater financial stability.

Despite its strong potential the micro finance sector faces certain challenges related to accessibility in rural India.

One of the major reasons for the insufficient outreach or failure of formal banking system in India while advancing credit to the rural poor is the absence of proof of recognised employment or collateral security that can be offered by the poor while availing loans. This leaves the poor with no other option but to borrow money from the moneylenders at higher rates of interest and get stuck in the vicious circle of poverty and exploitation.

2. MICROFINANCE STORY IN INDIA

The steppingstone towards microfinance started in India with the formation of Self-Employed Women's Association (SEWA) in Gujarat, which established SEWA Bank in the year 1974. Since its inception, this bank has been rendering financial services to individuals who aspire to grow their own businesses in rural areas. One such successful initiative is Kudumbashree, the Kerala State's Poverty eradication Mission that was launched in 1988. This is a female led community organization of Neighborhood Groups (NHGs) proving a platform for the women belonging to rural and urban areas to come together and fight for their rights and helps to empower them. Through these groups, women work on numerous issues like health,

nutrition, education, agriculture etc. They can even collect income and seek microcredit while working under this scheme. Such small-scale initiatives help to promote financial independence in the underprivileged sections of our society. There is always a need to provide microfinance facilities to serve India's large rural population.

3. IMPORTANCE OF MICROFINANCE

Almost half of the population of our nation does not have access to basic savings account. However, every segment requires financial services so that their dreams can be fulfilled. With the help of microfinance, the financially underserved get access to capital helping them to become self-sufficient. If microfinance institutions were not offering credit to the vulnerable section of the society, then these groups would have been resorted to borrow money from the moneylenders or family members. Microfinance helps these groups to invest wisely in their businesses, and hence is in the alignment with the government's goal of financial inclusion and inclusive growth in the country.

3.1 Types of Microfinance-

1. Microloans: These loans are significant as these are provided to borrowers with no collateral security.
2. Micro savings: These accounts allow businesses to operate savings account with no minimum balance. These accounts help entrepreneurs develop financial discipline and develop an interest in saving for the future.
3. Microinsurance: It is a kind of coverage provided to borrowers of microloans with lower premiums than conventional insurance plans.

3.2 Microfinance Channels-

In India, microfinance operates primary via two channels-

A. SHG- Bank linkage Programme (SBLP)-

This channel was initiated by NABARD in the year 1992. This model encourages financially weaker women to come together to form groups of 10-15 members. At regular intervals the members of the group contribute their individual savings to the group. Loans are given to the group members from these contributions. SHGs also offer bank credit at later stages, and these loans can be utilized for funding income generating activities. This model has achieved a lot of success and popularity for empowering women in the country.

B. Microfinance Institutions (MFIs)-

These institutions lend through the concept of Joint Liability Group (JLG), which is an informal group that comprises of 5-10 members who apply for loans either jointly or individually.

4. CHALLENGES OF MICROFINANCE IN INDIA

Microfinance has been praised by many, as it is a clear passage to eradicate poverty, aid the marginalised sections of the society, reduce unemployment, and improve their earning capacity. However, it has also received criticism from certain segments, as it was argued that microfinance made poverty worse. Running a microfinance programme in rural India comes with some significant challenges:

1. The outreach is limited-

The microfinance delivery models fail to concentrate on individuals who are below the poverty line as they are deemed to be risky. There is a prejudice whilst selecting beneficiaries for the scheme. The operators of the scheme select economically stable persons as the programme beneficiaries to run the programme successfully. Therefore, only a limited extend of the people are benefitted from these schemes.

2. Restricted spread in the poorer states-

The extent of microfinance programme is low in the states where a large percentage of the population lives in poverty. The successful distribution of microfinance programmes depend on the support provided by the respective state governments and the concentration of MFIs in these regions.

3. Higher interest rates-

Higher rates of interest on loans weaken the economic status of poor clients discouraging them further. The main reason behind this is poor regulation of interest rates in the microfinance sector. Even though some MFIs have regulated interest rates but they impose transaction costs leading to increase in the burden making borrowing less attractive.

4. Lack of awareness of financial services in the economy-

Though a developing country in the making, India has a low literacy rate, which is still moderate to low in rural areas. This lack of adequate information is a major issue that keeps the rural population away from accessing MFIs for easy credit to meet their financial requirements.

5. SUGGESTIONS

Although the microfinance sector is plagued by numerous issues and complications in delivering proper financial services, there is still ways to improve and solve these problems experienced by the sector. Improvements are required from the side of the state and central government, MFIs and microfinance clients. Some of the recommendations are-

1. Playing the vital role of a substitute to banks in areas where people are financially illiterate and severely underbanked, MFIs need to provide a complete range of products to help the poor and vulnerable people break the cycle of poverty.
2. It's important to have a proper regulatory environment that not only protects the interest of stakeholders as well as promotes future growth of MFIs.
3. Apart from the government initiatives, we the people of our country should create the awareness about microfinance.
4. Field supervision is also equally important encouraging MFIs to abide by proper code of conduct and work in the most efficient manner.
5. It is also recommended that uniformity in the interest rates is extremely important to be charged by all the MFI players in the market, which would give the beneficiaries the freedom to compare different financial products before availing.

6. IMPACT OF COVID-19 ON MICROFINANCE

The Covid-19 pandemic has disrupted operations in every sector of the economy across the globe. The MFIs also are badly hit. At one side, they are suffering from the non-payment of

loans by their borrowers, on the other hand, they must fulfil their commitment of repaying their lenders (Banks, NBFCs/ other FIs). The major highlight of this sector has been its high level of connect with the customers. But due to the pandemic, this connect was badly affected.

The response from the MFIs during these tough times was sensible and matured. They asked their field supervisors to conduct virtual meetings wherever possible or through phone calls counselled the borrowers. Still the question remains, will this sector bounce back? The answer lies in the study of past trends only, how every time this sector has bettered itself after every crisis. So, this sector will continue to survive and develop after this mega crisis as well.

7. CONCLUSION

This study concludes that microfinance in India is especially important tool for poverty eradication and to achieve financial inclusive of the poor in rural and urban areas. In the current scenario, the gravity of this sector is even more. The individuals at the bottom of the pyramid would require more credit to start their businesses. The inability of MFIs in getting adequate funds is a major challenge in the microfinance growth and so these institutions should look for alternative source of funds. The impact of microfinance is appreciable in bringing confidence, courage skill development among poor people. The MFIs would play a vital role in achieving their client's credit demands. The faith between the microfinance clients and MFIs is still intact.

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Mobile Computing: Issues and Challenges

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ABSTRACT

Mobile Cloud Computing (MCC) is an emerging field. Due to the wide usage of mobile devices and variety of applications, mobile cloud computing becomes a necessary part for mobile devices, due to reliability and portability as data processing and storage take place outside of the mobile. Mobile cloud computing integrates the cloud computing into the mobile environment and overcomes obstacles related to the performance (e.g., battery life, storage, and bandwidth), environment (e.g., heterogeneity, scalability, and availability), and security (e.g., reliability and privacy). As mobile Cloud computing is still in early stage of development, it is useful to build a thorough understanding about existing models and future trends. The purpose of this survey is to analyze and point out the major issues and challenges and risk involved in the mobile cloud computing as well as present new trends in this field.

Keywords – Cloud Computing, Mobile Computing, challenges, issues

1. INTRODUCTION

Mobile Computing is a technology that allows transmission of data, voice and video via a personal computer or any other wireless enabled device without having to be connected to a physical link. In mobile computing platform information between process units flows through wireless channels.. This technology allows the mobile users to form, access, process, store and communicates data while not being affected to one location. Mobile devices (e.g., Smartphone, Tablet PCs, etc) are densely used in today's scenario and still get even more important since the usage of mobile Internet. The growth of the number of applications available for those devices in the last few years has shown that there is a high demand for mobile apps. Mobile computing is that the discipline for making a data management platform, that is free from abstraction and temporal constraints. This temporal and special freedom provides a strong facility permitting users to succeed in information website and also the process site (the geographical location anywhere a process should be performed) from everywhere. Cloud computing has impact on mobile banking and mobile games etc. With the advent of smart phones and their support for large applications like video games, image processing and e-banking etc. Their complexity and demand of computational resources is increased.

2. MOBILE COMMUNICATION

The mobile communication is to the infrastructure put in place to ensure that seamless and reliable communication goes on. They would include protocols, services, bandwidth, and portals necessary to facilitate and support the stated services.

Mobile hardware:

Mobile hardware includes mobile devices or device components that receive or access the service of mobility. They would range from portable laptops, smartp hones, tablet Pc's,

Personal Digital Assistants. These devices are configured to operate in full- duplex, whereby they are capable of sending and receiving signals at the same time.



Mobile software



Mobile software is the actual program that runs on the mobile hardware. The primary common systems and operative locations used on mobile computers include MS-DOS, Windows 95/98/NT, UNIX, android etc. It's the essential component that operates the mobile device. Kind of integrated development setting portability is the main factor, this type of computing ensures that users are not tied or pinned to a single physical location, but are able to operate from anywhere.

Challenges by mobile computing are:

1. Mobility
2. Wireless Medium
3. Portability

1. Mobility:

Mobile connectivity is highly variable in performance and reliability. The ability to change location while connected to the network. Certain data considered static for stationary computing becomes dynamic for mobile computing .As people move, their mobile computers will use different network access points. Location management is also a big factor in mobility. To manage the location, following tasks are to be performed regularly over a fixed period of time.

- Track user's call.
- Update user's position and data.

2. Wireless Medium:

The transmission medium in mobile computing is wireless. Wireless networks will continue to have limited bandwidth, high latency and frequent disconnection due to power limitations, available spectrum .Various interferences occurs in the mobile computing by the different elements in the environment. Network cost is feasible. Wireless medium is more difficult to

implement than wired communication because of the interaction of the surrounding environment with the message signal. Wireless networks deliver lower bandwidth than wired networks, hence mobile computing designs need to be very concerned about bandwidth consumption.

3.Portability:

Devices connected within the **mobile computing** system should facilitate mobility. Conventional desktop computers are not meant to be carried, so designers take liberal approach to space, power, cabling. Keeping a copy that does not reside on the portable unit can safeguard against data loss. Security is very less, as security risks include the processing of fake transactions, unauthorized access of data and program files, and the physical theft or damage of the device. These devices may have limited device capabilities and limited power supply but should have a sufficient processing capability and physical **portability** to operate in a movable environment.

Recent issues in Mobile computing:

1. Insufficient Bandwidth:

Mobile internet access is generally slower than direct cable connection using technologies such as GPRS and EDGE. High speed wireless LANs are inexperienced but have very limited range.

2. Security Standards:

Security is a major concern while concerning the mobile computing standard on the fleet. One can easily attack VPN(Virtual Private Network) through the line.

3. Power Consumption:

When a power outlet or portable generator is not available, mobile computers must rely entirely on battery power. Mobile computing should also look into Greener IT in such a way that it saves the power or increases the battery life.

4. Transmission interferences:

Weather, terrain and the range from the nearest signal point can all interfere with signal reception.. Reception in tunnels, some buildings and rural areas is often poor.

5. Potential Health hazards:

People who use mobile devices while driving are often distracted from driving are thus assumed more likely to be involved in traffic accidents. There are allegations that cell phone signals may cause health problems.

6. Security issues:

Confidentiality: preventing unauthorized users from gaining access to critical information of any particular user.

Integrity: Ensures unauthorized modification, destruction or creation of information can not take place.

Availability: Ensuring authorized users getting the access they require.

Authorization: It is give the permission to the individual to access the data.

Non-repudiation: The communication parties cannot deny that the information has been exchanged between them.

3. CONCLUSION

This paper presents a survey on Mobile computing and the issues and challenges in MC. Mobile computing is made possible by portable computer hardware, software, and communications systems that interact with a non-mobile organizational information system while away from the normal, fixed workplace. Mobile computing is a versatile and potentially strategic technology that improves information.

Mobile computing offers important advantages for organizations that prefer to integrate the technology into their fastened structure data system. mobile computing and data management policies to overcome these issues to make it successful and reliable technology. Wireless communication brings challenging new problems. Mobility makes information dynamic. Portability entails limited resources available on board to handle the variable mobile computing environment.

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Mutual fund: An Ultra-Modern Vehicle of Investment

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ABSREACT

A mutual fund is a diversified portfolio management scheme where investors invest their money in a pooled way. It is managed by a mutual fund manager who invests the collected money from the investors into a number of bonds and securities depending upon the objective of the scheme. (Shitole & Thyagarajan, 2012) The investment made by the mutual fund managers may invest the money in shares, debentures, money market instruments etc. (Ikram & Khan, 2011). The income that is earned by these investments is shared among the unit holders depending upon the prorata basis and the number of units held by the investors. Hence it could be regarded that the Mutual Fund is the most reliable and safest investment in which the common man make investments. (Bogle, 2010)The investments made in the mutual fund is termed to be the low-risk investment as the investment gets distributed in an array of diversified bonds and securities which is professionally managed by the mutual fund portfolio manager.(Reily & Brown , 2011) It is the segment in which any nominal investor could invest starting with a minimum of a thousand rupees. It must also be noted that each mutual fund has a defined investment objective and strategy. (NISM Series V-A)).The mutual funds issued by Unit Trust of India highly dominated the Indian mutual fund market by capturing about a total of Rs. 700 billion with more than 20 million investors (Chakraborty, Jain & Kallianpur, 2008). The UTI has issued funds or schemes in all the diversified categories like equity, balanced, income etc. along with some open-ended and closed-ended securities. Another scheme that is found to be the most popular in the Indian mutual fund's markets is Unit Scheme 1964 also popularly known as US 64. It is a balanced fund and is considered to be the largest scheme with the market share of about Rs200 billion (ACMA, 2014).

1. MECHANISM OF MUTUAL FUND

Mechanism of mutual fund indicates the working of mutual fund. The following figure represents the mechanism of mutual funds in India.

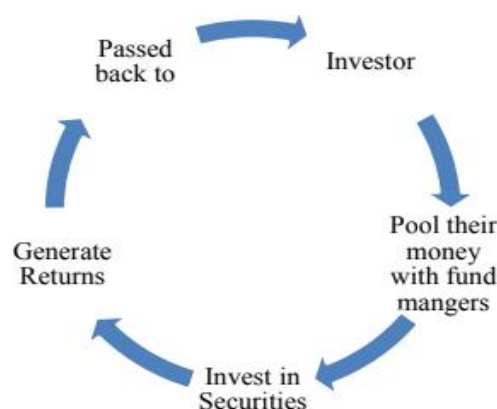


Fig: 1.1. Mechanics of mutual funds in India Source: (www.amfiindia.com)

The initiation of the mutual fund mechanism starts with the Investors when they pool in their money to make investments to the find manager. Then the fund manager issues funds to the

investors against the cash given by them. The investors get fund in proportionate amount and the predetermined unit of funds is not known. Each time the investor make investments new units are issued and the fund manager issues shares, debentures and other securities to the investors. The portfolio maintained by the investors depends upon the objectives laid by him to the fund manager. The fund manager makes investments as per the directions given by the investors. In most of the case the fund managers is supported by a group of research team, dealers, brokers, and custodians, etc. who guide and suggest to make investments. The fund manager takes the important decision of selecting the funds and making investments. The fund manager manages the balance among all the investments done on behalf of the investors and keeps a watch on the market activities and then divides the interest and debentures earned on the funds to the investors based on net asset value, (NAV). Finally the returns are given to the investors after calculating the losses and profits.

2. THE HISTORY OF MUTUAL FUNDS IN INDIA

The mutual fund industry was initiated in India in 1963 whose foundation was laid down by the Unit Trust of India in association with the Government of India and Reserve Bank of India (**Ravichandran & Jayraj, 2017**). The evolution of the mutual funds has been classified into four phases which are the First Phase: 1964-1987(Growth and origin of Unit Trust of India, Second Phase : 1987–93(Entry of Mutual Funds in Public Sector), Third Phase: 1993–2003 (Entry of Mutual Funds in Private Sector), and Fourth Phase (Since 2004 Onwards): Consolidation and Growth.

First Phase - 1964-1987

In the year 1963, the Unit Trust of India (UTI) was established by passing an Act by the Parliament. The Reserve Bank of India laid down the foundation for it and was found to be functioning under the Regulatory and administrative control of the Reserve Bank of India. The Regulatory and administrative control was taken under consideration by the Industrial Development Bank of India (IDBI) when the UTI got de-linked with RBI in the year 1978 (**Rahman, Qiang & Barua, 2012**). The first scheme was launched by the UTI in the year 1964 under the Unit Scheme. It was found that by the end of the year 1988, UTI was flourishing with about 6,700 crores of assets under its management by launching a number of schemes in for the investors in the 1970s and 80s.

Second Phase - 1987-1993 (Entry of Public Sector Funds)

The non-UTI mutual funds came into the market in the year 1987 along with the inclusion of public sector mutual funds set up by public sector banks, Life Insurance Corporation of India (LIC) and General Insurance Corporation of India (GIC). The first non-UTI Mutual Fund was SBI Mutual Fund which was launched in the year 1987. Mutual Funds like Canbank Mutual Fund (December 1987), Punjab National Bank Mutual Fund (August 89), Indian Bank Mutual Fund (November 89), Bank of India (June 90), Bank of Baroda Mutual Fund (October 92) came into the market to influence the investors (**Qadeer & Reddy, 2013**) to make more investments in this segment. Investors started developing trust and investing a large portion of their savings in mutual funds. By the end of 1993, the mutual fund industry assets had reached about Rs. 47,004 crores.

Third Phase - 1993-2003 (Entry of Private Sector Funds)

Many new parties like private sector entered in the mutual fund's sector during this phase. The SEBI Mutual Fund Regulations came into the formation during 1993 which was

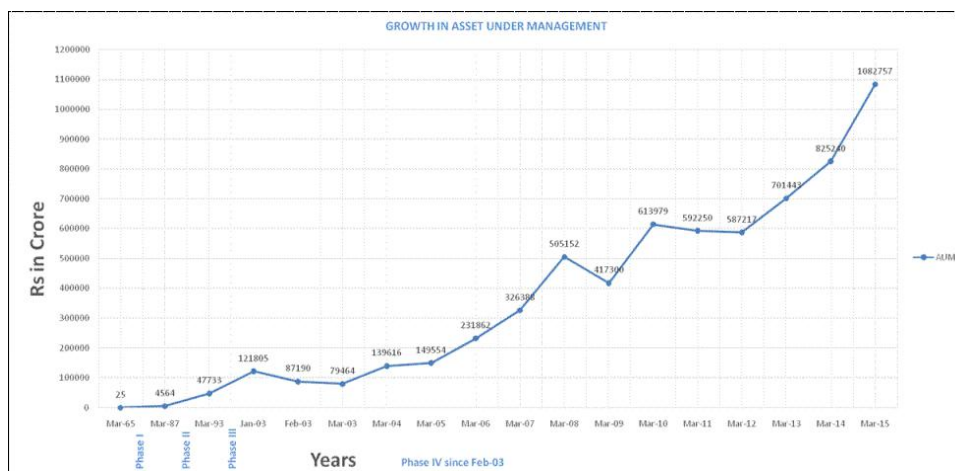
later on revised by Mutual Fund Regulations in 1996 (Singh, 2006). The Association of Mutual Funds in India (AMFI) was established in 1995 which promoted healthy and ethical marketing practices in the Indian mutual fund Industry. Many new foreign mutual funds came into Indian markets which led to the formation of several mergers and acquisitions. (Mehru, 2004) The investors got a wide range of mutual funds to select and invest. The end of January 2003 marked the emergence of 33 mutual funds with total assets of Rs. 1, 21,805 crores.

Fourth Phase - since February 2003

In February 2003, repeal of UTI took place and got branched into two separate units, one was not registered by SEBI and the other was registered by SEBI. Several mergers and acquisitions took place in which Allianz Mutual Fund acquired by Birla Sun Life, PNB Mutual Fund by Principal, among others (Puri, 2010). Many international institutes like Fidelity entered into the field of the mutual fund providing more investment avenues to the investors. The mutual fund industry carried its growth of assets under management during 2018-19 as well. The MF industry saw gross resources mobilization to 243.9 lakh crore during 2018-19 in comparison to 210.0 lakh crore during 2017-18. The AUM of mutual fund industry grew by 11.4 per cent to 23.8 lakh crore at the end of March 2019 from 21.4 lakh crore at the end of March 2018. The net resources mobilized by all mutual funds in India were 1.1 lakh crore during 2018-19. (SEBI report 2018-2019)

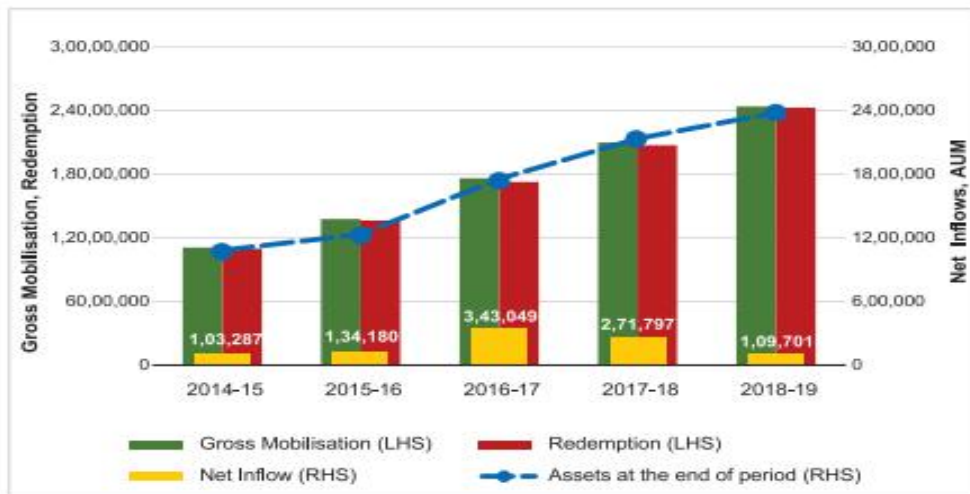
The following figures indicate the growth of assets under management of phase 1V since Feb 2003.

Fig 1.2 Growth in assets under management



Source: www.amfiindia.com

Fig 1.3 Mobilization of resources by mutual funds (Rs. Crore)

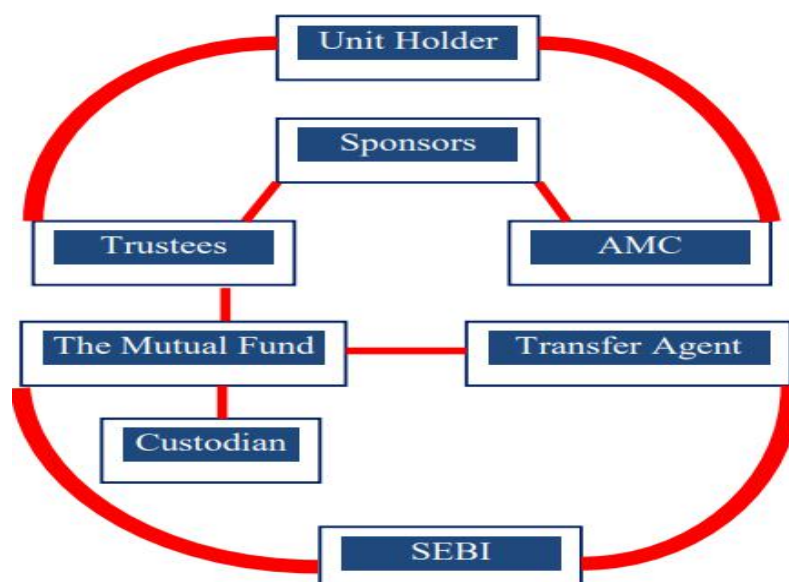


Source: Annual report of Securities Exchange Board of India pg 83 (SEBI 2018-2019)

3. STRUCTURE OF THE MUTUAL FUND

SEBI regulates and determines the structure of mutual fund in India. According to SEBI (mutual fund) regulations, 1996 mutual fund is created as a trust. Mutual fund consists of a 3 tier structure involving sponsor, trustees and AMC, these different entities comprising the structure of mutual funds in India. (Singh & Jha, 2009). The following figure illustrate the structure of mutual funds in India.

Fig: 1.4 Structure of mutual funds in India



Source: www.amfiindia.com

It is found that SEBI determines the structure of the mutual funds which establishes funds under the Indian Trust Act 1882 that is externally managed. A four-tier structure is followed in the operation of mutual funds which are sponsor, Board of Trustees, an asset management company and a custodian (Suppa-Aim, 2010).

Sponsor: It is identified as the promoter of the organization who generates the idea to establish AMC.(NISM Series VA) It is also defined as a body comprising an individual or a corporate body which establishes a mutual fund. Sponsors contribute capital towards mutual fund.

4. CONCLUSION

Investment in a mutual fund has usually been a subject remembers of debate for the buyers because of its difficult nature and taxes worried. An equity fund is an open- or closed-ended fund that invests mostly in stocks, permitting traders to buy into the fund and, as a result, purchase a basket of stocks extra effortlessly than they could purchase the temperament securities. There are hundreds of equity finances with each having precise traits. A few well-known equity finances encompass aggressive increase budget, small corporation finances, growth and earnings-price range, index funds, and many others. As in step with Indian profits Tax Act, Equity Oriented Fund (EO fund) refers to gadgets of Unit trust of India or a fund wherein investible finances invested by manner of fairness stocks in home groups exceed 65percent of the full proceeds of such fund and which has been installation underneath a scheme of a mutual fund exact underneath segment 10(23D) of the Act. The percentage of fairness shareholding of the fund is computed with regards to the annual average of the month-to-month averages of the whole and ultimate amounts (**Bhavsar & Damani, 2014**). The profits/losses arising on the transfer of devices of EO fund are labeled as a quick-time period/lengthy-term capital profits relying upon their period of conserving. Long-time period capital gain springing up on the transfer of units of EO fund is exempt from tax in which such gadgets are sold via a known inventory trade in India and such sale transaction is an issue to Securities Transaction Tax (STT). In cases in which the switch of gadgets of EO fund is not through a known stock exchange and STT has not been paid, the lengthy-time period capital gain is taxable at 20% on the amount of capital benefit, problem to availability of indexation advantages, i.e., the capital profits shall be the distinction between the sale consideration and the listed fee of acquisition (the value of buy is expanded by making use of the price-inflation index). But, one has a choice to pay tax on the lengthy-term capital gain at 10% (without taking the indexation advantage) on the switch of devices of EO fund. This feature of choosing among 20% on long-time period capital gains publish indexation and 10% of capital gains without indexation is available only in case of securities listed on any recognized stock change in India/units of mutual fund particular under phase 10(23D) of of Act of Unit Trust of India. The short-term capital advantage is taxed at regular quotes (i.e., the slab charges). But, in phrases of section 111A, quick-time period capital benefit arising on transfer of units of EO fund (now not held as inventory in trade) is taxed at a flat fee of 15% (**Bedia & Padmawat, 2013**). This is inter alia concern to the condition that such transaction is issue to STT. when the entire taxable earnings, excluding the short-term capital advantage taxable under section 111A and long-time period capital benefit, is much less than simple exemption restrict, the long-term capital gain or quick-time period capital advantage is to be decreased to the quantity of such shortfall at the same time as calculating the tax liability. Equity-oriented funds are not required to deduct any distribution tax on any dividend distributed to unitholders.

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New Methods of Carbon Emission Reduction for India

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ABSTRACT

The increase of carbon emissions has led to major issues like global warming, health hazards etc. This has brought an urgency to find methods to decrease our carbon emission levels and reduce it. This paper introduces three such methods which India could implement and drastically decrease their emission level while benefiting from it. Biomass carbon removal storage, carbon mineralization and carbon tax if implemented in India can make phenomenal changes and accelerate the reduction process.

Keywords: *carbon emission, climate change, carbon mineralization, carbon tax*

1. INTRODUCTION

The ever increasing temperature of the globe has put all of us in deep concern and one of the main reasons for this is excessive carbon emission. Throughout the years science and technology has played a significant role in technological advancement but this has also led to the increase of greenhouse gases. Climate scientists and researchers agreed that technological advancements have changed the earth's atmosphere in a dramatic way. Greenhouse gases is the major cause for these drastic changes with the negative impacts on environment and social life. Researchers have also predicted that the temperature of earth will increase by 6 degree Celsius by 2050. If not controlled now, it will severely affect our ecosystem and disturb its ecological balance. However, we need to understand this emergency and immediate actions must be taken to tackle this hot issue. New methods must be introduced to stop the unhealthy amount of carbon emission before it reaches out of control living life comes to an end.

The increase in precipitation, melting of glaciers and rising sea levels has the power to influence the Indian climate negatively, with the increasing incidences like floods, avalanches, cyclones, hurricanes, and storms, a lot of damage has already been done. Besides the visible effects on the climate and environment, these gases have harmful effects on human health and wildlife. The World Health Organization predicts that climate change is responsible for almost 200,000 deaths per year, and it is likely to increase in the coming years. Hot temperatures increase the ozone concentration, which has harmful effects on people. Not only is it a serious threat to the planet and to people but also climate change is threatening the global economy, food supply, water bodies, etc.

Agriculture is a climate dependent bio-industry and in a country like India, agriculture is an important sector of economy as it contributes about 17% to the total GDP. The rise in temperature reduces the quality and quantity of the crop resulting in reduced sugar content, bad colouration and reduced storage stability in them. In times like these it is likely to see a rise in the inflation curve. Warmer temperature enhances evaporation in soil which then leads

to droughts. Droughts will lead to making water more costly, which will then increase the cost of raw materials and production.

Predicting the consequences of global warming is a difficult task, but with every passing year India's suffering at the hands of droughts and climatic conditions are worsening. The decline trend in snowfall and melting glaciers of the Hind-Kush Himalayas are strong evidence of the devastating effects of carbon emissions.

The climatic change will impact the globe which in turn will threaten businesses in many ways. It will affect food security and promote the spread of deadly diseases. These factors will result in reduction of productivity as well as the amount of labour available to produce the output.

Experts suggest that all these changes will have a long term socio-economic impact on the lives of Indians. This has created a demand for new technologies that can help capture carbon dioxide and methane. However, we need to understand the emergency, take appropriate measures at the earliest.

2. NEW METHODS FOR CARBON REDUCTION FOR INDIA

Worldwide, mainly in developed countries many methods for carbon reduction have been implemented and initiatives have been taken to diagnose the issue of excessive carbon emission, one of the prime factors for global warming.

India being a developing country as well as having one of the fastest growing economies in 2021, contributes to 7% of the world's carbon emission and is ranked 3rd after China and USA for carbon emission. Due to the recent increase of infrastructure in India the emission numbers are on the rise and there is no control over it. The government of India has taken many little efforts to fight the problem of carbon emission at a slow pace but that is not enough.

There are few methods below that India could implement which could reduce carbon emission drastically-

2.1 BIOMASS CARBON REMOVAL STORAGE

As the name suggests, it involves capturing CO₂ directly from the atmosphere and storing them in geological carbon banks. Storage of CO₂ for large-scale carbon extraction from the atmosphere could play an important role in clean energy transitions. It is a range of processes that uses plants and algae to remove carbon dioxide from the atmosphere and store it underground or in long-lived products.

Accordingly, this will be defined as a process that -

- (a) Uses biomass to remove CO₂ from the atmosphere
- (b) Stores CO₂ underground or in long-lived products, and
- (c) Does no damage to the environment and ideally promotes food security, rural livelihoods, biodiversity conservation and other important values.

Sustainable production of biomass comes from many sources:

- a) Wastes and residues
- b) Dedicated carbon-removal crops
- c) Managed forests
- d) Microalgae
- e) Seaweed/macro-algae
- f) Agricultural waste

Once biomass arrives at conversion facilities, the carbon it contains is converted thermo-chemically, biochemically or through combustion. These facilities make products with commercial value which include fuels that were once made with coal, oil and gas, helping displace emissions. Other products include power, heat, construction materials and biochar.

As a final step, CO₂ at these facilities is either captured and pumped underground for permanent geologic storage or converted into long-lasting products in which the carbon is trapped for decades or centuries.

Wastes are no longer burned in open fires or allowed to decay to methane-rich gases. The energy products produced are either carbon neutral or carbon negative. Moreover, global trade in biomass and carbon dioxide removal (CDR) credits has allowed many developing nations of the world to benefit financially from contributing to the fight against climate change.

The most important part of our path to this point was when we agreed that CO₂ removal must begin with consideration of preventing harm to ecosystems, enabling good governance at the local and the global level, ensuring energy and economic returns, and understanding the stocks and flows of biological systems. With these worldwide understandings and constraints, biomass has become a powerful contributor to the mitigation of climate change and general increase of world welfare.

2.2 CARBON MINERALIZATION

Carbon mineralization is the process of carbon dioxide changing from its original form which is gas into solid carbonate mineral. This method involves capturing and storing carbon underground which after certain chemical reactions, takes the form of a solid matter which is rich in calcium and magnesium. Just like living beings constantly inhale and exhale air, our earth as well constantly ingests and exhales carbon. It is we humans who have accelerated the production of carbon due to the ever increasing demand which has led to disruption of the earth's natural carbon cycle and this is what we call a climatic crisis. Scientists have said that mineralizing carbon is one of the most effective, long-term and non-toxic way of scrubbing CO₂ from the earth's atmosphere. Likely the best use for this method would be close to industrial sites with carbon dioxide emissions, where the carbon could be captured before it goes into the atmosphere and immediately mineralized onsite.

This process of underground storage increases the reduction of carbon and in turn reacts with the rocks which leads to formation of magnesium or carbon ions.

One of the biggest advantages of this process is that the carbon cannot escape back into the atmosphere, it is now trapped in a rock solid form. There are innumerable ways in which this solid source can be used, for example in factories, building infrastructure etc.

Since the process is expensive, India can switch to other cost effective alternatives such as storing the captured carbon in sedimentary basins which prevents the carbon from entering

the earth's atmosphere'. Considering the sedimentary basins as our storage bank, injecting the carbon underground for mineralization could be another method that India can implement.

2.3 CARBON TAX

A carbon tax is a fee imposed on the burning of carbon-based fuels like coal, oil, gas, petrol and also on their overall carbon emission rate from other sources.

It is a method to make users of carbon fuels pay for the climate damage caused by releasing carbon dioxide into the atmosphere. If it is high priced, it becomes a powerful financial way that motivates switches to clean energy across the economy, simply by making it more feasible to move to non-carbon fuels and energy efficiency. The collected tax can be used by the government to set up green based infrastructures and use that money to make a carbon free environment.

Currently in India a carbon tax is applied on coal, but this not enough. All materials that emit carbon right from big factories and industries to a common man using a motor vehicle should come under the umbrella of carbon tax. When people realize the amount of carbon they emit, it is then that they will take initiatives to reduce their emission and this will help in eradicating the problem on the grass root level.

A committee or an organization can be set up to calculate an individual's or a factory's or a business's estimate emission and apply tax on it.

For users who don't emit carbon should be rewarded by overall tax deduction as this will seem like a beneficial deal for the users and make masses convert into sustainable lifestyle.

3. CONCLUSION

Global warming is one of the major causes of our problems today and one of the prime factors of it is carbon emission. The main contributor of it is factories, especially energy producing factories. Carbon emission affects our lives in all ways like social, environmental, economical etc. making this a concerning issue to deal with. India faces a lot of problems due to these emissions and it results in damaging the economy and the wellbeing of people.

Biomass carbon removal and storage is one such method that India can use as it is a cost effective method and is completely green. If this method used in urban areas like Mumbai, Delhi, Bangalore could be most beneficent and can promote a healthy environment for the city people.

Another method that India can use which is a bit costly but proves to be extremely efficient in the long run is carbon mineralization. This method involves completely capturing carbon dioxide from the atmosphere and converting it into materials that are beneficial to us. India can use this method by placing such plants near high carbon emitting factories and the disrupted carbon cycle can be rectified again and prove to be useful to us by giving us valuable carbon minerals.

For creating a loud awareness of the critical problem that we Indians are facing today is by the government applying a carbon tax on every individual of India. By applying this tax not only awareness will be created but also citizens would try to evade this by using greener means of living which would decrease their carbon emission.

All these methods can drastically solve the problem but it wouldn't make much of a difference if the people are not educated on matters of carbon emission.

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Perspective of Retailing in Kanyakumari District – A Post COVID 19

Analysis

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ABSTRACT

Retail organization refers to the basic format or structure of a retail business designed to cater to the end customer. Retailing has been a dynamic industry where new retail firms have brought innovative approaches to retailing, changing the industry as they enter, develop and grow. These organizations can be classified on the basis of ownership, operational structure, length and depth of merchandise offered and so on. The location of a retail store not only conveys the image of the store, but also influences the merchandise mix and the interior layout of the store. The attribute of location have a strong impact on the retailer's overall strategy influencing the flow of pedestrian and vehicular traffic which determines the footfalls in a retail store. Location and store characteristics should interact in a positive and synergistic way with the store's merchandising, operation and customer service characteristics. Another significant related concept is atmospherics and space management. Atmospherics refer to the stores' physical characteristics which influences the perception of customers towards shopping hours spent and the evaluation of merchandise. Effective space management attempts to ensure optimum utilization of retail space along with convenience of customers and employees. This study deals with profile, type of retail business, years of experience, investment location, layout of the stores.

Keywords: Retail, location, layout, merchandise, space management

1. INTRODUCTION

The retail sector has experienced a growth upswing in the last few years marked by growing awareness among consumers, rise in disposable incomes, changing behavior and increasing amalgamation of online and offline retail formats. As shoppers become more demanding, retailers have had to innovate by transforming commodities, marketing techniques, presence and appeal in order to remain appropriate for their customers.

With COVID-19 changing the consumer sentiment and lifestyle, it has also quicken the adaptation of technology in this industry. Today being online and having a strong backend is no longer going to be optional for any retailer. Every retailer is forced to adapt digital ways at a much faster pace and has to invest in technology to improve quality of service and it is expected to have swift in digitalization to open new opportunities and drive change in this retail sector.

COVID 19 has made buying virtually more real than it has ever been and retailers have started looking at innovative ways of improving sales, such as providing virtual trial rooms and video-based sales calling. With this the integration between offline and online retail is likely to grow further. Businesses are exploring integration strategies to enrich the customer

value proposition and/or reduce costs. The focus is now on creating a unified shopping experience for customers across different marketing / sales channels.

As per a recent global survey by CBRE, 48% of the retailers expected demand to improve in 2021 with consumers to drive sales upwards and India will see a similar trend as the retailer activity is picking up.

With rapidly evolving consumer preferences and attitudes, retailers and businesses must embrace the change and prepare for transformation in order to provide a seamless shopping experience to consumers. With the emerging technology, and rise of omni-channel retailing, retailers need to revamp and recalibrate their business strategies to create new experiences and gain consumer trust in a post-Covid world

The retail stores are here to stay, and apart from being just a point of sale for the brands, they will also serve as a platform to attract, engage and retain consumers. Retailers are looking at creating unique experiences for their customers and are looking for high quality spaces.

2. RESEARCH METHODOLOGY

Research design is the blueprint for empirical research work that guides the researchers in a scientific way towards the achievement of the objectives. This research is based on observed and measured phenomena and derives knowledge from actual experience rather than from theory or belief. The research instrument used for this study is a self-administrated questionnaire that was circulated among respondents in the form of a survey, and the data collected in this way were the primary data for the analysis.

Since the people who are engaged in retailing in India are numerous in number, it was found quite unwieldy to select certain percentage of the population as the sample frame. So for our research purpose 100 samples were selected from different parts of Kanyakumari District on the basis of simple random sampling.

3. DESCRIPTIVE ANALYSIS

A descriptive analysis is an important first step for conducting statistical analysis. It gives you an idea of the distribution of your data, helps you detect outliers and typos, and enable you identify associations among variables, thus making you ready to conduct further statistical analysis

Form of ownership

The table 1 describes the distribution of retail stores based on the form of ownership.

Table 1: Distribution of stores - Form of ownership

Form of Ownership	No Of Respondents
Sole Proprietorship	83
Partnership	15
Company	2
Total	100

It is clear from table 1 that 83% of stores are in the form of sole proprietorship, 15% are in the form of partnership and only 2% are in the form of company. It is concluded that majority (83%) are in the form of sole proprietorship.

Type of business

Table 2 describes the classification of retail stores based on the type of retail business.

Table 2 : Distribution of stores - Type of business

Type of Business	No Of Respondents
Convenience store	86
Departmental Store	12
Supermarket	2
Total	100

It is evident from the table 2, that among various types of retail business 86% account for convenience store, 12% account for departmental store and only 2% account for supermarket. To conclude, convenience store constitutes majority (86%) of retail business.

Years of experience

Table 3 specify the distribution of stores based on the years of experience in retail business

Table 3 : Distribution of stores - Years of experience

Years of Experience	No Of Respondents
Below 1 year	36
1 yrs -2 yrs	29
2 yrs -5 yrs	15
5 yrs -10 yrs	7
10 years and Above	13
Total	100

Table 3 depicts that 36% of retail owners have below 1 year of experience in business, 29% have 1 yrs -2 yrs of experience, 15% have 2 yrs- 5 yrs of experience, 13% have more than 10 yrs of experience, and only 7% have 5 yrs-10 yrs of experience. It is concluded that 36% of retail owners have below 1 yrs of experience in business.

Initial investment

Table 4 describes the distribution of stores based on the initial investment of retail stores.

Table 4 : Distribution of stores - Initial investment

Initial Investment	No Of Respondents
Below Rs. 1 lakh	50
Rs. 1 lakh - Rs. 3 lakh	39
Rs. 3 lakh and Above	11
Total	100

Table 4 describes that 50% of retail owners invest below Rs. 1 lakh, 39% invest between Rs. 1 lakh and Rs. 3 lakhs and only 11% invest between Rs. 3 lakhs and above. To conclude, majority (50%) of the retail owners invest below one lakh.

Source of investment

Table 5 : Distribution of stores - Source of investment

Source of Investment	No Of Respondents
Own Fund	34
Borrowed Fund	19
Both	47
Total	100

Table 5 reveals that 47% of retail stores use both own and borrowed funds, 34% utilize own fund and 19% utilize borrowed fund as a source of investment for retail business. To conclude, 47% utilize both own and borrowed fund for retail business.

Chi-square Analysis

A chi-square test for independence compares two variables in a contingency table to see if they are related. In a more general sense, it tests to see whether distributions of categorical variables differ from each another.

Hypothesis: The organisational factors have no significant influence on the location of the store

Table 6 : Chi-square values-Organisational factors and location of store at various levels

Organizational Factors	Chi – Square Values			
	Low	Medium	Big	Overall
Form of ownership	3.800	3.870	8.667	15.968*
Type of retail business	14.042	1.782	7.944	27.355*
Years of experience	15.088	25.081	6.741	30.536*
Initial investment	15.176*	12.743	4.540	24.876*
Source of investment	18.817*	21.696*	7.800	27.605*

* Significant at 5 per cent level

It is clear from table 6 that in the low level category, initial investment, source of investment and have significant influence on the number of customers visiting the store per day. In the medium level category source of investment have significant influence on the number of customers visiting the store per day. In big level category, all the organizational factors have insignificant influence in the number of customers visiting the stores per day. The overall position indicates that all the Organizational factors have significant influence on the number of customers visiting the stores per day. It is concluded that source of investment have significant influence on the number of customers visiting the store per day at various levels.

Hypothesis: The organisational factors have no significant influence on the location of the store

Table 7 : Chi-square values-Organisational factors and location of store at various levels

Organizational Factors	Chi – Square Values			
	Low	Medium	Big	Overall
Form of ownership	0.921	3.815	1.093	3.443
Type of retail business	2.294	6.629	2.117	1.812
Years of experience	7.667	17.917	7.879	12.655
Initial investment	13.057*	11.870	2.026	18.499*

Source of investment	0.690	26.381*	1.093	9.355
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* Significant at 5 per cent level

It is evident from table 7 that in low level category initial investment is significant in influencing the location of the store whereas in medium level category source of investment and years of experience have significant influence on the location of the store. In big level category, all the organisational factors have insignificant influence on the location of the store. The overall position indicates that the initial investment, Source of investment have significant influence on the location of the store. It is concluded that initial investment and Source of Investment have significant influence on the location of the stores at various levels.

Hypothesis: The organisational factors have no significant influence on the number of customers visiting the store per day.

Table 8 : Chi-square values-Organisational factors and number of customers visiting the store per day

Organizational Factors	Chi – Square Values			
	Low	Medium	Big	Overall
Form of ownership	3.800	3.870	8.667	15.968*
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4. CONCLUSION

Retailers are the closest to the point of purchase and have access to a wealth of information on consumer shopping behaviour. Retailers have some unique advantages for managing brands such as continuous and actionable dialogue with consumers, control over brand presentation at point of sale, control over shopping environment, display, location, signage etc and they have used this advantage to earn great success. Understanding their evolving needs, aspirations and life styles is the underlying key to success for any retailer. The primary emphasis should be on access, experience, service, the secondary emphasis should be on product and price. Hence, retailers should concentrate on researching customer preference, developing value proposition, establishing retail networks and supply chain.

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Plight Female Domestic Helpers – during and post lockdown in Mumbai City

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ABSTRACT

Housing societies began with restrictions like scanning for fever with temperature guns in March. As the lockdown became tighter and panic turned to fear, societies banned cooks, maids, and plumbers as possible carriers of the virus. Some of them did not allow them to use the lifts and asked them to climb floors and gradually, ousted them. This put them in a state of financial shock. Many of their families depended on their incomes. Some were paid, while some were not. This is empirically proved by collecting information from 55 respondents who are offered domestic help in various houses in the suburbs of chembur, Mumbai and found it difficult to run their house. An empirical analysis of how difficult it is for female domestic workers to get back to normal life, even if normalcy has resumed in Mumbai City, owing to their financial and living conditions has been carried out by surveying 55 female domestic workers who were laid off from work due to the outbreak of the pandemic in Chembur, a suburb in Mumbai.

Key words: domestic helpers, pandemic, cooks/ maids, quality of life

1. INTRODUCTION

Mumbai, the busy city, where most of the people in various cities were very much dependent on their maids (female domestic helpers) for various household chores right from cleaning, housekeeping, taking care of children, cooking, taking care of elderly and sick people to being there to attend visitors or be at home with them to help them along ...had to lay off these helpers for the fear of spread of the Covid-19, consequences of which proved to be fatal.

2. REVIEW OF LITERATURE

According to Charmes (2000), there is an overlap between working in the informal economy and being poor: a higher percentage of people working in the unorganized sector, relative to the organized sector, are poor. There is a correlation between working in the unorganized sector and poverty: a higher percentage of people working in the unorganized sector are poor compared to those who are employed in organized sector. Further, this overlap is gendered. The more women are in unorganized sector who are poor compared to that of men. However, it is important to recognize the fact that there is no simple relationship between working in the unorganized sector and poverty or working in the organized sector and prosperity. Unorganized workers typically lack the social protection benefits which are available to the organized sector, such as worker benefits and health insurance. They also work under irregular and casual contracts. When the data has closely analysed, the precise relationship between unorganized sector employment and the level of poverty appears when unorganized

sector employment is segregated by status of employment like employer, self-employed, or worker, and the gender.

Upadhyay V. (2007) conducted a study on Employment and Earnings In Urban Informal Sector in Arunachal Pradesh focusing on investigating the quality of employment in the informal sector in terms of earnings, job-security, working hours, and the general socio-economic conditions of the informal sector workers. The study also examined the linkages, if any, between formal education and earnings in different segments of the informal sector. Major findings of the study revealed that the exploitation of wage workers in the informal sector was higher than that of the formal sector. It is also important to note that the linkages of the informal sector units with government and other public systems by way of regulation, input and utility supplies were found to be more or less non-existent. Study also found that very insignificant proportion have access to electricity and Institutional credit and no one was provided access to allotted site and capital assistance for government. Majority of the workers in the job markets in urban areas were migrants. The share of the male migrant workers was as high as 92 per cent, while that of women workers was only 26.2 per cent. But it was found that the share of female workers was much more among the non-migrant workers. Only 25 per cent of the total samples surveyed were self-employed, while the rest were hired workers. As far as the payments of wages were concerned, only 68 per cent of the hired workers received their wages in cash, while the rest 32 per cent received it partly in cash and partly in kind.

3. RESEARCH METHODOLOGY

Data Source

Primary data: An interview schedule was administered to 55 residents of K.N. Gaikwad Marg, (popularly known as “Siddarth colony”) who were offering domestic help at various houses in Chembur . Purposive sampling technique was adopted. Data collection was done in two parts. One part on their personal details, socio economic details and quality of living was collected in July 2019 and the second part was December 2019 during the lock down imposed to investigate the effect of the lock down on their socio economic status. The researcher also used observation method to assess their living environment.

Secondary: M.Phil/ PhD Thesis, Journals and other periodicals. The data so collected was statistically analysed using statistical packages. Statistical tools fit were descriptive – frequency analysis and quality of living index was used to understand their quality of living.

Objectives of the study

1. The Current study examines the quality of living of the female domestic helpers with reference to their earnings, savings, assets owned by them, number of dependents, their debts, the amount they pay, how frequently they paid off the same before and after the pandemic and thereby, their ability and capacity to bounce back to the normalcy.

4. RESULTS AND DISCUSSION

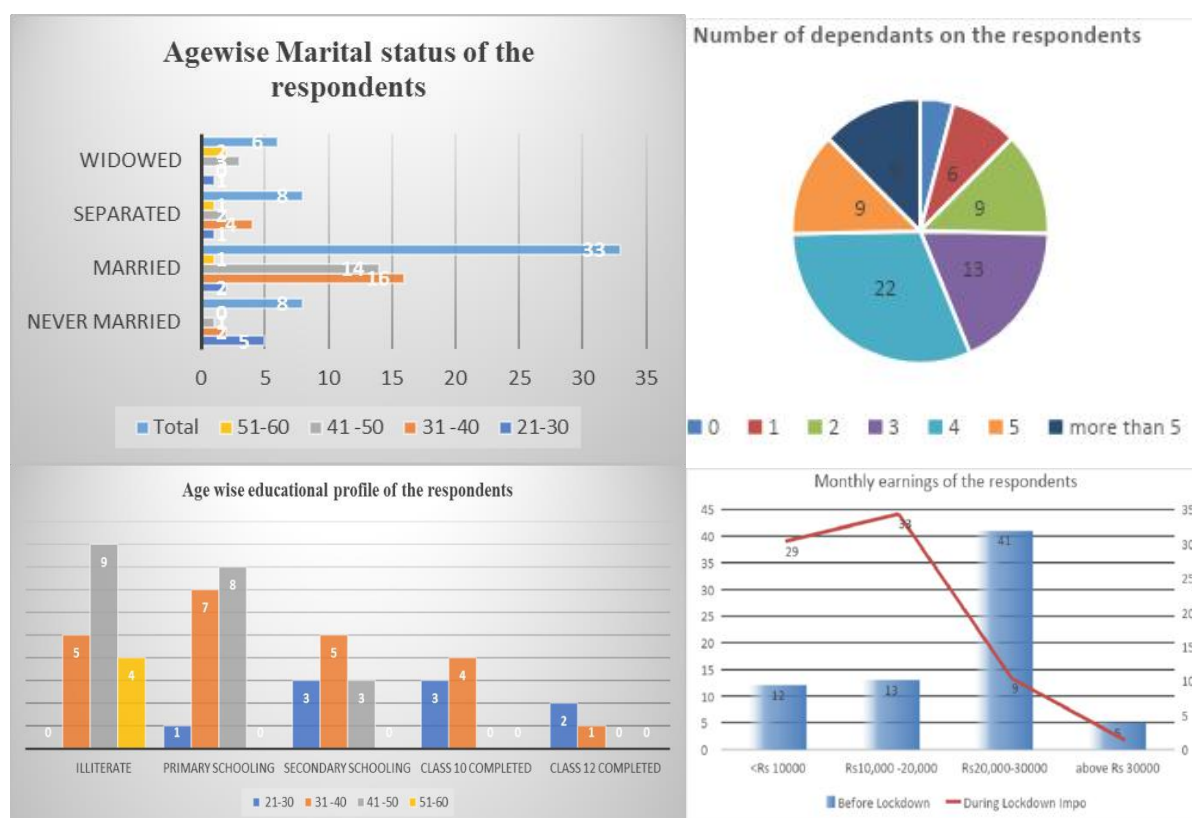
I. Demographic and Social Profile

Table 1 Age wise Distribution of the respondents

AGE	Number of respondents
21-30	9(16.36)
31 -40	22(40)
41 -50	20(36.36)
51-60	4(7.27)
Total	55(100)

Source: Estimation based on field survey
 Figures in Bracket indicate per centage

Table 1 above shows the age wise gender distribution of the respondents. Out of the 55 respondents surveyed, over seventy six per cent of them were middle aged women in the age group of 31 – 50. While about 4 of them were older ones in the age group of 51-60.



Source: Estimation based on field survey

Figure 1 shows the age wise marital status of the respondents. Majority of the respondents are married.

Figure 2, above, shows the literacy level of the respondents. Majority of the respondents, especially the middle -aged ones have basic level of schooling at least primary level. About one third of the respondents were illiterates (eighteen out of the fifty five)

II. Scio Economic Profile of the respondents

Figure 3 above shows the number of dependents the respondents are currently supporting. Thirty one percent of the respondents had four dependants while 13 percent of the respondents had even five people depending on their income. Very few respondents (four per cent and eight percent respectively) no dependants or one dependant for support.

Economic Profile of the respondents

Figure 4 above, shows the monthly earnings of the respondents before lock down and the effect of the lockdown imposed by the government due to the outbreak of the pandemic (Covid-19). This shows a steep decline in the income of the respondents who were dependant of their earnings from domestic help.

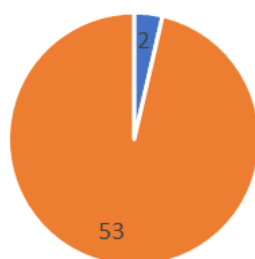
Table 2 Assets owned by them in Mumbai

Assets	Number of respondents
Two wheeler	12 (21.82)
Television	48 (87.27)
Refrigerator	32 (58.18)
Washing Machine	12 (21.82)
Furniture	55(100)
Gold (upto 100 grams)	13 (23.64)
Silver upto 250 grams	55 (100)

*Source: Estimation based on field survey
Figures in Bracket indicate per centage*

Table 2, above shows the assets owned by the respondents during the period of Survey. All the respondents owned some amount of jewellery, at least silver. Many of them (over 87 per cent) possessed television sets also. All of them owned basic furniture. like chairs, tables, a cot to sleep on in their houses

Figure 5 Type of House Living in



■ Owned ■ Rented

Response	No of Respondnets
Yes	2 (3.64)
No	53(96.36)
Total	55 (100)

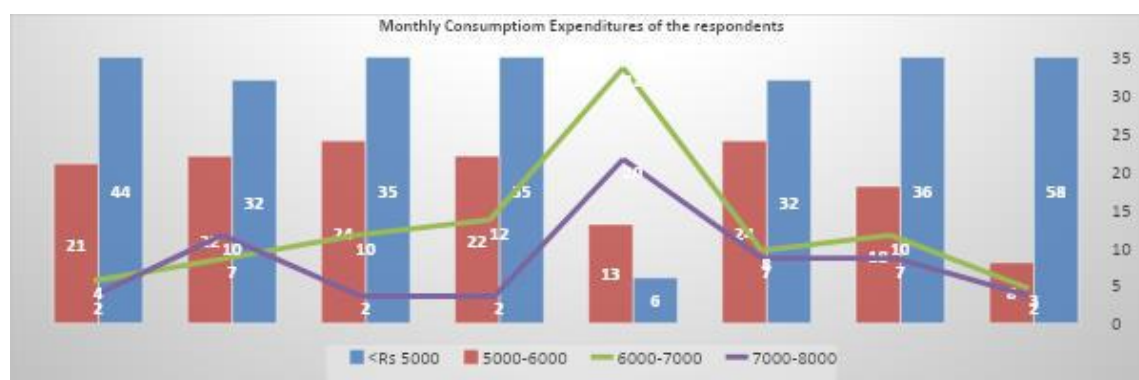
*Source: Estimation based on field survey - Table 3 24*7 Water Facilities at place of residence*

Figure 5 shows the if the respondents are living in owned or rented homes. Majority, over ninety six per cent of the respondents live in rented houses

The Table 3 above shows the access to water facilities for the respondents. Over ninety eight per cent of the respondents do not have access to 24*7 water. Leave aside drinking water, they have access to water facility only for about 2-3 hours during the day. They fill water during that that time for the entire household. There are a minimum 450 houses in each of the locality surveyed. In case they miss filling water, they have to manage without water the rest of the day. This shows their pathetic living condition. Only 16 out of the 55 respondents fill water from a private taps. Rest of them fill water from shared taps.

Monthly Consumption Expenditure

Figure 6 Monthly Consumption Expenditure of the respondents



Source: Estimation based on field survey

The above figure shows the monthly consumption expenditure of the respondents before and during lockdown. It can be seen that food income shows a rise during lock down and so does alcohol as people tend to consume more alcohol when they lose their jobs, lose their livelihoods. While in the case of non- food expenditures, they have come down, though not significantly. But there is a steep fall in the miscellaneous (entertainment) expenses during lockdown as compared to before lock down.

Table 4 Monthly savings of the respondents

	Monthly savings of the respondents	
	Before Lock Down	During Lockdown
Rs 0-2000	22(40)	47 (85)
Rs 2000-4000	21(38)	8 (14)
Rs4000-6000	12(22)	0 (0)
Total	55 (100)	55 (100)

Source: Estimation based on field survey Figures in Bracket indicate per centage

Monthly savings amount can be seen in the above table (no). Monthly savings amount has dropped many respondents saved even up to Rs 600 a month before the lock down. Now, this has dropped drastically. Either they don't save at all or save a lot lesser than what they were saving. This is consequent to the fall in their income and rise in expenditures also.

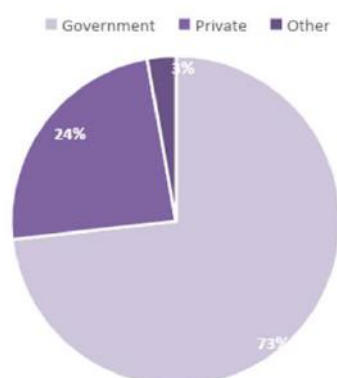
Table 5 Health condition prior to lockdown imposed

S.no	Common sicknesses	No of Respondents
1.	Fever	48 (87)
2.	Diarrhoea	29 (53)
3.	Stomach Pain	19 (35)
6.	Leg and Hand Pain	48 (87)
7.	Acidity	48 (87)
8.	Thyroid	20 (36)
9	Asthma	42 (76)
10	Eye sight	22 (40)
11	Joint pain	48 (87)
12	Urinary infection	36 (65)
13	Skin Allergy	40 (73)
14	Kidney Stone	34 (62)

Source: Estimation based on field survey Figures in Bracket indicate per centage

The above table shows some of the common illnesses faced by the respondents. Majority of them face (48 and 48) illnesses like leg and hand aches and even Acidity issues, when asked about diabetes and blood pressure, all of them unanimously said that they haven't got it tested.

Hospitals visited for treatment when they fall ill



The above figure (number 7) shows the preferred hospitals, the respondents visited prior to the pandemic situation. Majority of them said that they preferred government hospitals as treatment was less expensive and they cannot afford to pay the bills of private hospitals. Many of them also said that in a week, at least once they have to visit the hospitals as their family members also frequently fall ill. They are all residents of chawls where, they have to share a common toilet and the area of their residence has a very poor sanitation facility.

Indebtedness of the respondents

The below given table no 6 shows the indebtedness of the respondents

Amount Borrowed	No of Respondents
below 5,000	6 (10.91)
5000 - 10,000	29 (52.73)
above 10,000	6 (10.91)
Total	41(74.55)

Source: Estimation based on field survey Figures in Bracket indicate per centage

About 75 percent of the respondents had borrowed money for various reasons listed below in the forth coming table and with the little earnings or bare minimum earnings they earn set aside a sum to repay...

Table No 7 Amount Repaid

Amount	Number of respondents
Below Rs 1000	12 (29.27)
Rs 1000 - Rs 5000	6 (14.63)
Rs 5000- Rs 10,000	15 (36.59)
Above Rs 10,000	8 (19.51)
Total	41 (100)

Source: Estimation based on field survey Figures in Bracket indicate per centage

From Table 7, it can be seen that many (a little over 36 per cent) of them had a repayment commitment of Rs 5000 and above which they felt became a big burden due to the loss of their jobs. A few, about twenty percent of them even had a loan repayment of Rs 10,000 and above, which became almost impossible for them to repay...

Table 8 Source of Borrowings

Lenders	No of Respondents
Local money lenders	13(31.71)
Friends	3(7.32)
Family members	9(21.95)
Others	2(4.88)
Employers	14(34.15)
Total	41(100)

Source: Estimation based on field survey Figures in Bracket indicate per centage

Table 8 above shows the source of borrowings of the respondents. About 32 percent of them have borrowed from local money lender while, almost an equal amount have borrowed from their employers. They also said that local money lenders charged them 10-12 % rate of interest. Which, though was very high, they were managing to pay...

Table 9 Reason for borrowing

Purpose for borrowing	No of respondents
Purchase of land	2(4.88)
Purchase of household articles	9(21.95)
Medical Expenses	4(9.76)
Children's educational expenditure	17 (41.46)
Repairing the house	6 (14.63)
Others like celebrations etc	1(2.44)
Emergencies	2(4.88)
Total	41(100)

Source: Estimation based on field survey Figures in Bracket indicate per centage

From the above table, table number 9, its can be seen that the respondents have borrowed for providing for their essentials. Most of them, twenty nine per cent of them have borrowed for meeting the educational expenditures of their children. They also said that they wanted their children to be educated so that their quality of living is better and they take up some "dignified" and better paying jobs in the society. Hence many of them did not being indebted through their life time. Some of them said that is their only goal...

Table no 10 Frequency of debt repayment

Frequency of Repayment	No of respondents
Weekly	3(7.32)
Monthly	19 (46.34)
Quarterly	3 (7.32)
Halfyearly	12 (29.27)
Yearly	2(4.88)
As and when they have money	2 (4.88)
Total	41(100)

Source: Estimation based on field survey Figures in Bracket indicate per centage

Table 10 above shows the frequency of repayment. Prior to the layoff from jobs. Most of them, over 46 percent repaid their debts monthly and a significant amount (over 29 percent) of them repaid half yearly also.

Table11 Problems faced by the respondents in their place of residence...

Factors	Number of Respondents
Lack of space	49 (89)
Uncertainty and Insecurity for them and their children	36 (65.45)
Safety issues	22 (40)
Unhygienic neighbourhood	48(87.27)
Threat from gangsters/ hooligans etc	22 (40)
high cost of living	12(21.82)
Fear of misbehaviours by passers-by etc	26(47.27)
leaking rooves/ broken or breakable walls etc	13(23.64)
Pollution –Air	55(100)
Noise Pollution	52(94.55)
Contaminated Water	32(58.18)

Source: Estimation based on field survey Figures in Bracket indicate per centage

Table 11 shows the problems faced by the respondents in their areas of residence. To add on to the air, noise and water pollutions faced by them and their family members and children, majority (87 per cent) of them also felt that their neighbourhood was very unhygienic and a little was done about this... this led to lot of health issues. Many of them also felt insecure in the areas where they lived. Some of them badly want to shift, but due to financial constraints are unable to do so.

QUALITY OF LIFE INDEX (QLI):

To study the levels of living and economic condition among the domestic helpers in Chembur, Mumbai quality of index was constructed. In development economics, the quality of life is usually discussed in terms of consumption expenditure, minimum calorie intake norms and income. Hence in present study the Quality of Life Index were constructed by using the following indicators namely education, occupation, annual income, annual per capita income, calorie intake (breakfast, lunch and dinner), food expenditure, non food expenditure, type of housing,, source of drinking water, drainage facility and toilet facility

Table No 12 Distribution of the Households on the basis of Composite Index

Composite Index	Never Married Women	Married Women— bread winners	Married Women— supporting earners	Separated	Widowed	All
Less than 30	24 (5.6)	26 (6.1)	17 (4.3)	5 (1.1)	20 (4.3)	95 (21.3)
30 – 40	36 (8.3)	43 (9.7)	35 (7.9)	42 (9.4)	35 (7.9)	192 (43.1)
40 – 50	30 (6.5)	22 (4.7)	39 (8.8)	32 (7.2)	18 (4.0)	139 (31.2)
50 and above	3 (0.7)	1 (0.2)	1(0.2)	11 (2.5)	3 (0.7)	19 (4.3)

Source: Estimation based on field survey Figures in Bracket indicate per centage

Majority (43 per cent) of the women venders were in the index range of 30 – 40, followed by 31 per cent and 21 per cent in the range of 40 – 50 and less than 30 and remaining 4 per cent in the range of 50 and above. In comparing the nature of products sold among the range 30 to 40, 10 percent belong to Married women who are the sole bread earners followed by separated women supporting their families of 9.4 per cent, followed by married women who have someone else earning in their family.

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	42.026	12	.000
Likelihood Ratio	42.252	12	.000
N of Valid Cases	443		

Source: Estimation based on field survey

The above table (table no 13) suggest that there is association between their marital status and their quality of life index.

Regression

Dependent variable : income of the respondents

Explanatory variables : Age, marital status, number of dependents in the family, Assets possessed, type of house living in

Table 14 Regression analysis

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	3.552	.332		11.000	.000
Age	.332	.019	.497	11.999	.000
Marital status	.142	.032	.221	5.600	.000
No of dependents	-.662	.095	-.239	-5.932	.000
Type of House Living in	-.114	.030	-.161	-3.629	.000
Assets possessed	-.241	.056	-.104	-2.613	.011

Table 14 shows regression analysis. These estimates reveals the relationship between the independent variables and the dependent variable. These estimates that an increase in age (.33 unit) has a positive increase in the amount of increase in income

Table 15 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.792 ^a	.622	.633	.068

Source: Estimation based on field survey

e. Predictors: (Constant), Age, nature of product sold, working days, Religion, savings
Table 15 depicts the model summary reports the strength of the relationship between the model and the dependent variable. The regression accounts for 61 percent of the variance in the dependent variable

Table 16 ANOVA regression model fit

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	106.139	5	21.428	45.172	.000 ^a
Residual	207.239	439	.474		
Total	313.378	444			

Source: Estimation based on field survey

a. Dependent Variable: Respondents of the income

f. Predictors: (Constant), Age, nature of product sold, number of dependents, Religion, savings

Table 16 shows the Anova of the regression model fit

5. CONCLUSION

Mumbai, which once was a land of opportunities, has shut its doors of jobs to millions of such poor people who were making both their ends meet by offering domestic help to various people. During Lockdown, when the employers stopped letting domestic helpers from entering their, houses, these people were almost in streets with children and other dependants to support. Many of them had to live on their savings. And when, things reopened, they have to start from the scratch as all their savings were consumed and in fact, their unpaid debts have overburdened them by and some have got added their debts added also. How easy or difficult will be for them to restart as the other would be starting from square 1, while these people from -1.

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Professional Game Development Pipeline for Students

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ABSTRACT

In any professional game development team, there are some guidelines that each member of their team must follow. These guidelines form a pipeline which describes the development process of a game. The main purpose of this paper is to provide certain direction for beginners to understand the flow of game development from concept visualization of game to release of the game. This paper also includes information about software programs that professional game artists as well as developers use to create 3d games.

Keywords: *Visualization, Concept, Design, Document, Game Development Life Cycle (GDLC), production, studio.*

1. INTRODUCTION

This Paper is Aimed at Students who are Interested in Understanding the Game Development Process and Steps Involved in Making 3D AAA Games. This Paper Includes an Overview of Game Development Life Cycle (GDLC) and professional Software programs as well as tools used During GDLC.

In any professional game department, there are different teams which perform different tasks. For example: team of game designers, 3D modelling artists, level designers, texturing artists, lighting artists, animators, Developers, Businesspeople etc. it is necessary for any student to understand the roles each team perform and their primary goals.

This paper will be focused on examining tools such as Autodesk Maya, Substance Painter, and Unity. All these tools are professionally used by game developers.

2. GAME DEVELOPMENT LIFE CYCLE

GDLC is most commonly used software development life cycle for developing games. GDLC includes different stages like Pre-production stage, Production stage, Testing (Both Alpha & Beta) and Release.

2.1 Pre-production stage

This stage mainly focused on Visualization and Concept. Visualization is the process where many game designers visualize unique and interesting concepts for new games. These unique and interesting concepts then put into written format known as Game Design Document (GDD). GDD is same for every game where you have to fill a form. Each team member of game designer team has to submit at least 5 Game Design Documents every month.

This GDD document then selected by the company and a prototype is made according to the GDD. This prototype is a primitive version of real game only having basic functionality.
GDD Example^[3]

2.2 Production Stage

Production stage is basically where the actual game is made. The prototype model of a game that is made in pre-production stage will be processed and refined in this stage. This stage has different substages like, Designing, texturing, lighting, colour correction etc.

Project Design Document

mm/dd/yyyy
Student Name

Project Concept

1

Player Control

You control a in this

where makes the player

2

Basic Gameplay

During the game, appear

and the goal of the game is to

3

Sound & Effects

There will be sound effects and particle effects

[optional] There will also be

4

Gameplay Mechanics

As the game progresses, making it

[optional] There will also be

5

User Interface

The will whenever

At the start of the game, the title will appear

Production stage always comes with a timeline in which the team has to complete different stages of production stage.

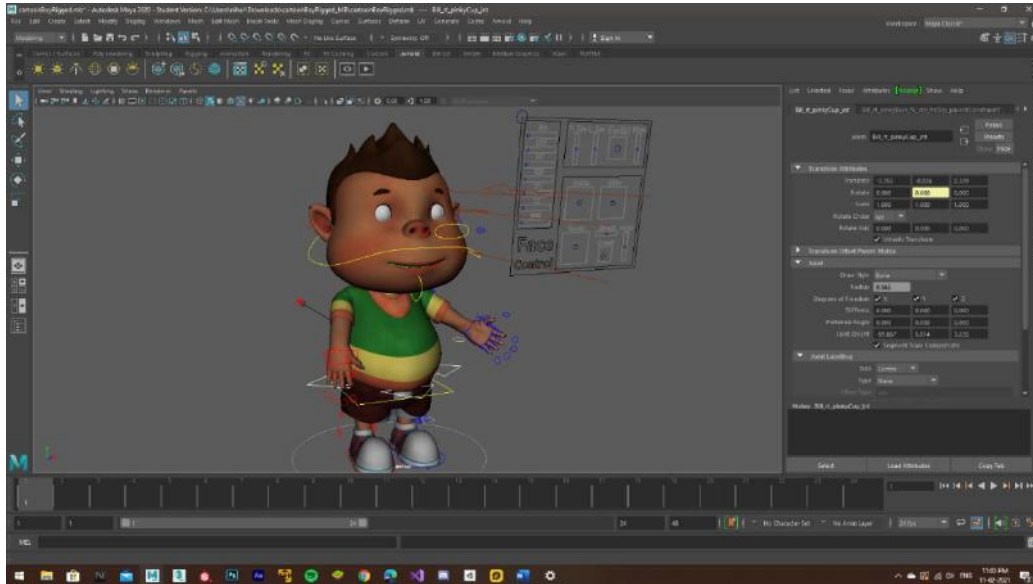
2.2.1 Designing :

In this stage all the designing processes like Environment design, character design, Game level Design will be done. This stage also includes 3d modelling of different assets. Assets includes 3d models, sound fx and particle effects which are used in game.

There are many software programs that are used for making game models. But the industry standard software is Autodesk Maya.

2.2.2 Autodesk Maya :

Autodesk Maya is an application used to generate 3D assets for use in film, television, game development and architecture. It is a full featured program with tools for modelling, animation, and motion capture. The reason why Maya is used professionally is because of its versatility and easy to learn interface. [4]



Autodesk Maya^[5]

2.2.3 Alternate 3d modelling software programs :

1. Blender

Industry standard open source software mainly used for 3d modelling and particle effects like fire, dust, and smoke effects. Many small scale game producers use this software program because it is free and lightweight.

2. Autodesk 3D Studio Max (3ds max)

3ds max is mainly used in high quality AAA games where high poly assets are needed. Main advantage for 3ds max is that we can use multiple plugins to make our work more efficient.

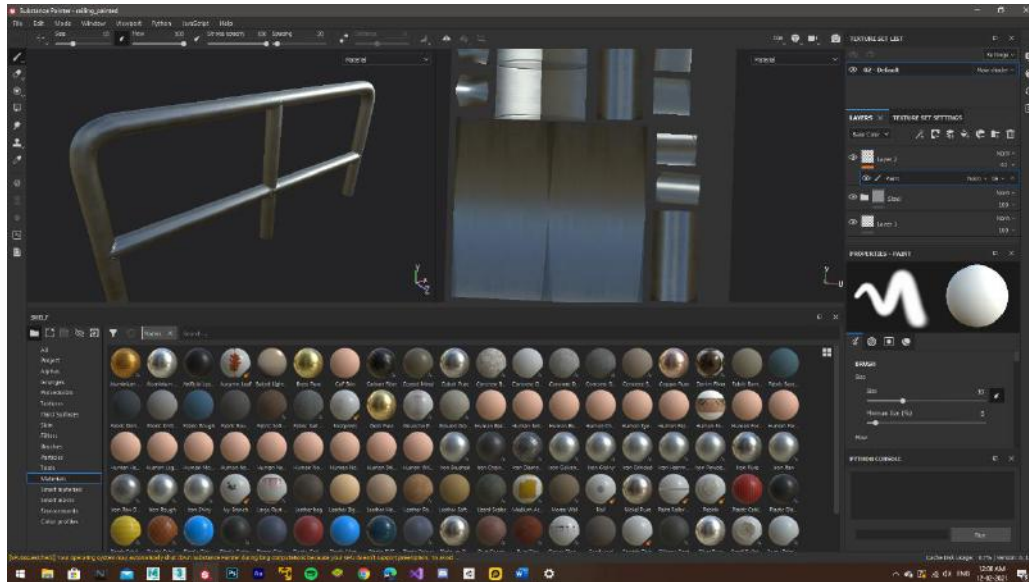
2.3 Texturing :

After modelling process of 3D assets is done then all the assets go to texturing artists. texturing artist will use software programs to look those assets realistic.

Texturing is a method for defining high frequency detail, surface texture, or colour information on a computer-generated graphic or 3D model. basically texturing is used to show any object with a specific pattern of colour, roughness, metallic nature etc. we use UV mapping method to arrange the co-ordinates of any 3d model before texturing.^[2] Substance painter is used for texturing the assets and make them look realistic.

2.3.1 Substance painter :

The main purpose of Substance Painter is to texture models. Its advance masking and procedural texturing tools allow you to make textures that are much harder to achieve in purely 2D programs like Photoshop.



Substance Painter

2.4 Game Engine :

A game engine, also known as a game framework or game-frame, is a software-development environment designed for people to build video games. Developers use game engines to construct games for consoles, mobile devices, and personal computers. For small scale game studios game engines is the best way to be more efficient and productive by using a pre existing platform.

Game engines manage the transformations, collisions, animations, and triggering of events for all the game objects in your scene. And it is at this stage, where you enable the user to control what is happening in the game.^[1]

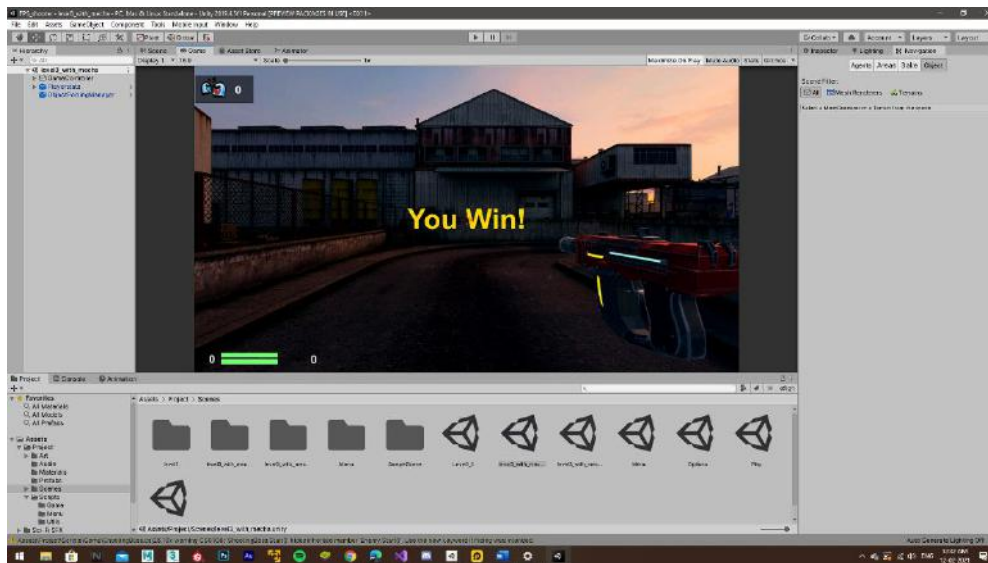
2.4.1 Unity Game Engine :

Unity is a cross-platform game engine developed by Unity Technologies. Unity projects can be developed on Windows and Mac environments, for multiple platforms. Unity gives users the ability to create games and experiences in both 2D and 3D.

2.4.2 Unity Asset store and Packages :

Asset store in unity is where people post different assets either for free or paid. By using pre existing assets sometimes game studios can save a lot of time.

Packages are basically Plugins that are used to make working in unity more easy. Some



packages can add a lot of functionality to your pre existing unity game engine.

Unity 3D

2.4.3 Alternate Game Engines :

1. Unreal :

Unreal is an open source game engine developed by epic games. It is more useful for 3d game creation than unity because of its built in templates. The main drawback of unreal is it is very heavy software and needs much more faster system.

2. Godot :

Godot is free and open source game engine mainly used for 2d game creation. It is very light weight and good program for indie game developers.

2.5 Testing and Release :

Testing is done when production process is done. There are 2 types of testing done during this period of time alpha and beta testing.

2.5.1 Alpha testing :

Alpha testing is where the basic functionality of the game is checked. This testing includes user controls, game mechanics checking, error checking and correction. Alpha version is only released to a small number of people.

2.5.2 Beta testing :

Beta testing is done by releasing the game to small number of people and checking their impressions of the game. Beta testing involves checking user experience and quality control.

2.5.3 Release :

Once the testing period is done, the game is released to the specific platform. Most popular platforms to develop games on are windows, mac OSX, Android, iOS etc.

3. CONCLUSION

Developing a game from start to finish is a very time-consuming process, but by following the robust pipeline given in the paper you can work more efficiently and take less time on unnecessary things.

This paper has provided a rough overview for students to take a step by step approach and understand workings of things.

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Realizing the Importance of Technology Post COVID-19

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ABSTRACT

The Covid-19 pandemic and the social distancing that followed have affected all walks of life and education. In order to keep education running, educational institutions have to quickly adapt to the situation. This has resulted in an unprecedented push to online learning. Many, including commercial digital learning platform providers, have rushed to provide their support and 'solutions', sometimes for free. This paper sites critical analysis to reflect on the possible problems arising from hasty adoption of commercial digital learning solutions whose design might not always be driven by best pedagogical practices but their business model that leverages user data for profit-making. Moreover, already before Covid-19, there has been increasing critique of how educational technology is redefining and reducing concepts of teaching and learning. Therefore, this is a critical moment to reflect how the current choices educational institutions are making might affect with Covid-19 education and online learning.

Keywords: *Educational Technology, Digital Learning Platform, Pedagogical practices*

1. INTRODUCTION

Epidemics and pandemics have been threatening the human race time and again. SARS, H1N1, Ebola, and more have shown their teeth in the past, but with each such outbreak, we are learning new ways of fighting and managing such unexpected diseases that can potentially kill millions of people. Technology cannot prevent the onset of the pandemics; however, it can help prevent the spread, educate, warn, and empower those on the ground to be aware of the situation, and noticeably lessen the impact. Today, with converging technologies like mobile, cloud, analytics, robotics, AI/ML, 4G/5G, and high-speed internet, it has become possible to test several innovative approaches to pandemic response. Here, we have listed eight such areas where technology play a vital role:

The Covid-19 pandemic raging around the globe has caused large-scale institutional and behavioural 'shock effects' in various areas of human activity including education. The impact on learners is unprecedented: on 9 April 2020, there are over 1,500,000,000 students worldwide from primary to tertiary level who cannot attend school (UNESCO 2020). Due to massive and unexpected closures, affected countries and communities have been forced to seek quick fixes in different digital learning platforms. These rapid moves from classroom to online teaching have set aside the more profound questions related to national educational policies and theoretical grounds and premises. People may be unable to decide whether a new disease or a new outbreak is trivial or whether it is really something enormously important. They swing backwards and forwards from one state of mind to another. At the same time, different actors in administrative positions provide their accounts of how to make sense of the situation and ensure the continuation of teaching and learning. Politicians are, of course, at the front line of educational policy-making, simultaneously setting restrictions and measures based on health experts' assessments and constructing their official and authoritative narratives. Lockdowns affect students in multiple ways, reinforcing inequalities and putting them under social and psychological stress. Parents and custodians are affected too, and many

of them come to realize, perhaps for the first time, the social purpose of the educational system and its power to structure everyday life.

2. IMPORTANCE OF TECHNOLOGY

1. Tele-health: Tele-health can be an effective way to contain the spread of COVID-19 while still providing essential primary care. Wearable personal IoT devices can track vital signs. Chat-bots can make initial diagnoses based on symptoms identified by patients. However, in countries where medical costs are high, it's important to ensure tele-health will be covered by insurance. Tele-health also requires a certain level of tech literacy to operate, as well as a good internet connection. And as medical services are one of the most heavily regulated businesses, doctors typically can only provide medical care to patients who live in the same jurisdiction. Regulations, at the time they were written, may not have envisioned a world where tele-health would be available.

2. Online Entertainment: Although quarantine measures have reduced in-person interactions significantly, human creativity has brought the party online. Cloud raves and online streaming of concerts have gain traction around the world. Indian film production companies also released films online. Museums and international heritage sites offer virtual tours. There has also been a surge of online gaming traffic since the outbreak.

3. Online Shopping and Robot Deliveries: Online shopping needs to be supported by a robust logistics system. In-person delivery is not virus-proof. Many delivery companies and restaurants are launching contactless delivery services where goods are picked up and dropped off at a designated location instead of from or into the hands of a person. However, before robot delivery services become prevalent, delivery companies need to establish clear protocols to safeguard the sanitary condition of delivered goods.

4. Digital and Contactless Payments: Cash might carry the virus, so central banks in China, US and South Korea have implemented various measures to ensure banknotes are clean before they go into circulation. Now, contactless digital payments, either in the form of cards or e-wallets, are the recommended payment method to avoid the spread of COVID-19. Digital payments enable people to make online purchases and payments of goods, services and even utility payments, as well as to receive stimulus funds faster.

5. Remote Work: Many companies have asked employees to work from home. Remote work is enabled by technologies including virtual private networks, voice over internet protocols, virtual meetings, cloud technology, work collaboration tools and even facial recognition technologies that enable a person to appear before a virtual background to preserve the privacy of the home. In addition to preventing the spread of viruses, remote work also saves commute time and provides more flexibility.

6. Distance Learning: Almost all countries announced or implemented school or university closures, impacting 1.57 billion students. Many educational institutions started offering courses online to ensure education was not disrupted by quarantine measures. Technologies involved in distant learning are similar to those for remote work and also include virtual reality, augmented reality, 3D printing and artificial-intelligence-enabled robot teachers.

7. Supply Chain: The COVID-19 pandemic has created disruptions to the global supply chain. With distancing and quarantine orders, some factories are completely shut down. While demand for food and personal protective equipment soars, some countries have implemented different levels of export bans on those items. Heavy reliance on paper-based records, a lack of visibility on data and lack of diversity and flexibility have made existing supply chain system vulnerable to any pandemic.

8. 3D Printing: 3D printing technology has been deployed to mitigate shocks to the supply chain and export bans on personal protective equipment. 3D printing offers flexibility in production: the same printer can produce different products based on different design files and materials, and simple parts can be made onsite quickly without requiring a lengthy procurement process and a long wait for the shipment to arrive.

9. Robotics and Drones: COVID-19 makes the world realize how heavily we rely on human interactions to make things work. Labor intensive businesses, such as retail, food, manufacturing and logistics are the worst hit. COVID-19 provided a strong push to rollout the usage of robots and research on robotics. In recent weeks, robots have been used to disinfect areas and to deliver food to those in quarantine. Drones have walked and delivered items.

10. 5G and Information and Communications Technology (ICT): All the aforementioned technology trends rely on a stable, high-speed and affordable internet. While 5G has demonstrated its importance in remote monitoring and healthcare consultation, the rollout of 5G is delayed in Europe at the time when the technology may be needed the most. The adoption of 5G will increase the cost of compatible devices and the cost of data plans. Addressing these issues to ensure inclusive access to internet will continue to be a challenge as the 5G network expands globally.

3. BENEFITS TO EDUCATION SECTOR

Some forms of emergency online learning are being criticized for failing to adhere to sound pedagogical principles, best practices, and earlier research. Quickly jumping on board with learning platforms and online learning has also raised concerns about privacy and surveillance and the impact on students' lives and human dignity.

In the moment of crisis, educational organizations should think carefully about their choices regarding online learning and education technology. These choices can potentially echo in the future as new relations of power and control, new forms of student inequity and inequality, and other unpredictable effects. In order to mitigate possible negative impacts, educational organizations should leverage past knowledge of online learning as something that can be more varied than just a way to deliver information. Online learning can take many different forms, including those pedagogically more innovative and engaging than commonly used processes of knowledge delivery and assessment. It can be informed and shaped by different education-philosophical and pedagogical underpinnings.

Online learning is often understood as synonymous to content-driven self-study, where the advantages are limited to independence of time and space. However, a digital learning environment which consists solely of textual files and lecture capture videos shared through a learning management system is very different from a digital learning environment that

utilizes a situated online learning design such as the authentic learning framework, which centralizes collaborative knowledge construction and complex, authentic learning. Furthermore, engaging teachers and students in the development, implementation, and use of education technology can affect how successfully technology can support meaningful teaching and learning.

4. CONCLUSION

Today the greatest risk of worldwide catastrophe is pandemic, an enormously infectious virus that's more devastating and may kill many people. The transparency that we have gained through this current COVID-19 situation, we now understand that we were not geared up for this pandemic situation. The next pandemic is not a matter of "if it happens", but "when it happens", would we be prepared in advance against the pandemic at an individual and collective level. What we actually need is preparedness. Indeed, the technology has advanced more and will continue to advance exponentially, but the human institutions and societies need to accelerate in adapting to it and continue investing in building the technology systems for the preparedness. After the COVID-19 outbreak, it is evident that, from AI to robotics, the technology innovations are helping to manage the epidemic and better equip to fight future public health emergency in a timely, systematic, and calm manner.

An urgent task in the Covid-19 pandemic is to actively engage people, networks, projects, research, and public discussions to promote critically and reflectively informed praxis. We need to apply and develop critical applied research methodologies and create design principles for democratic and emancipatory digitalization of education. Moreover, we need wider societal dialogue about purposes of education and about the kind of society we want to develop in the with Covid-19 world. Technology and their providers should follow suit.

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Role of Ergonomic Factors in Workplace Satisfaction During Post Covid-19: A Study Among the Nurses Working in Super Specialty Hospitals in Chennai

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ABSTRACT

Pleasure at work represents a combination of positive feelings that workers have towards their work. Meanwhile, when a worker employed in a business organization, brings with it the needs, desires and experiences which determinates expectations that he has dismissed. Pleasure at work represents the extent to which expectations are and match the real awards. Pleasure at work is closely linked to that individual's behaviour in the work-place (Davis et al.,1985). Herzberg's Two Factor Theory is probably the most often cited point of view. In fact the main idea is that employees in their Work scape factors are under the influence of factors that cause pleasure at work and factors that cause pain at work. The Present study is focused on measuring the role of Work scape factors impact on the pleasure at work of nurses working in the corporate hospitals in Chennai. The data required for the study is collected through structured questionnaire. The present study covers the entire Chennai covering all the corporate and big size corporate hospitals Majority of these hospitals are 24X7 in nature and dealt with multi specialty care services. The results state that, there is a highly significant impact of Work scape factors on the pleasure at work of the nurses working in the corporate hospitals in the sample area. A care and concern on improvement of working conditions can help in improving the pleasure at work and there by quality of services in the health care industry.

Key Words: *Quality – Work scape- work culture- working teams-health care.*

1. INTRODUCTION

Pleasure at work is a worker's sense of achievement and success on the job. It is generally perceived to be directly linked to productivity as well as to personal well-being. Pleasure at work implies doing a job one enjoys, doing it well and being rewarded for one's efforts. Pleasure at work further implies enthusiasm and happiness with one's work. Pleasure at work is the key ingredient that leads to recognition, income, promotion, and the achievement of other goals that lead to a feeling of fulfillment (Kaliski,2007).

2. REVIEW OF LITERATURE

Pleasure at work is under the influence of a series of factors such as: The workplace, physical arrangements at workplace (Scape) pay and perks, career growth, Management behaviour, Work groups and Working conditions. Therefore, the issue weather pleasure at work and pain at work are two opposite and excludable phenomena? Herzberg's Two Factor Theory is probably the most often cited point of view. In fact, the main idea is that employees in their Work scape factors are under the influence of factors that cause pleasure at work and factors that cause job dissatisfaction. Therefore, all factors that have derived from a large empirical research and divided in factors that cause pleasure at work and pain at work factors.

3. RESEARCH METHODOLOGY

The present study covers the entire Chennai covering all the corporate and bigger size corporate hospitals. Majority of these hospitals are 24X7 in nature and dealt with multi specialty care services. Many hospitals are equipped with latest medical and surgical and diagnostic care facilities. These hospitals get patients from the southern and northern states of India. Few hospitals have the foreign patients and also have NRI and foreign patient facility centres. Some of the hospitals in the study are Apollo Group, Billroth group, Apollo Group, Ramachandra, Mehta hospitals, Sundaram medical, Fortis Malar hospitals, Vijaya health care, Miot hospitals, SIMS hospitals, Global Health City, Chettinad hospital, and Balaji hospitals, Md.Reela Specilaity etc. The study covers all age groups of nurses and all divisions of medical care. Outpatient service care is also considered for the study.

Objectives of the Study

1. To study the profile of nurses in terms of personal and professional variables in the sample area.
2. To study the Work scape factors among the corporate hospitals in the sample area.

Hypothesis

1. H₁: Demographical variables (personal) have a direct significant effect on pleasure at work of nurses in corporate hospitals
2. H₂: Work scape factors have a direct significant effect on pleasure at work of nurses in corporate hospitals

Data collection instrument is validated with the help of pilot study and recommendations were incorporated in the questionnaires. The primary data was obtained through direct communication with the respondents through questionnaire.

4. DATA ANALYSIS AND RESULTS DISCUSSION

The present chapter is dealing with data analysis using the different parametric and non parametric statistical tools through a computer version of Statistical package and tests are selected on the basis of the nature of data.

Table 4.2.1 Distribution of sample on the basis of Type of employment

Type of employment	Frequency	Percentage	Valid percentage
Permanent	358	69.9	69.9
Temporary	154	30.1	30.1
Total	512	100.0	100.0

Source: Primary data

It is observed from the table 4.2.1 that 69.9 percent of the nurses working in the corporate hospitals are permanent and the remaining 30.1 percent are temporary rolls in the sample area. It indicates that the hospital sector is practicing the certain manpower planning and management practices in recruitment and making the employees as on roll and permanent employees in the sample area. The higher side of permanent nature of nurses working in the corporate hospitals is a good sign. Indirectly it improves the morale of the nurses working in the corporate hospitals and also the loyalty towards the organization. The permanency of the employment status gives confidence and focus on the employment in a static way. The performance metrics followed to convert the temporary employees to permanent needs to be

transparent and encouraging in nature. This can help the nurses and the hospitals to improve service quality, customer satisfaction and there by consistency in the growth and development.

Table 4.2.2 Distribution of sample on the basis of age

Age (in years)	Frequency	Percentage	Valid percentage
Below 20	63	12.3	12.3
21-30	162	31.6	31.6
31-40	153	29.9	29.9
41-50	90	17.6	17.6
Above 50	44	8.6	8.6
Total	512	100.0	100.0

Source: Primary data

It is noted from the table 4.2.2 that the age wise composition of nurses working in the corporate hospitals is quite encouraging in nature and found suitable to the best recruitment policies and management practices. The statistics on the sample shows 31.6 percent of the nurses in the sample are belongs to 21-30 years age group, 29.9 percent are belongs to 31-40 years age group, 17.6 percent are belongs to 41-50 years age group and the 12.3 percent are below 20 years and 8.6 percent of the sample are belongs to above 50 years.

The management model refers higher end of bottom level employees and moderate size in number of middle level and the lower percentage of the top level can help in managing the protocols and work culture and authority and responsibility relationships. In addition the span of control is quite competitive and suitable at all points of time. In a way, it helps the employees to learn and grow under the supervision of trained nurses and also have an opportunity to discuss the personal and professional issues to the senior or supervisory level nurses. This can help to improve the level of pleasure at work of the nurses in the corporate hospitals

Table 4.2.3 Distribution of sample on the basis of educational qualification

Educational qualification	Frequency	Percentage	Valid percentage
Diploma	101	19.7	19.7
Vocational	120	23.4	23.4
Under graduate	127	24.8	24.8
Post graduate	85	16.6	16.6
Professional	79	15.4	15.4
Total	512	100.0	100.0

Source: Primary data

It is observed from the table 4.2.3 that 24.8 percent of the nurses working in the corporate hospitals are under graduates, 23.4 percent are vocational degree holders, 19.7 percent are diploma holders, 16.6 percent are post graduate holders and finally 15.4 percent are professionals in the sample survey. The composition indicates the best mix in terms of experience and the type of training undergone from the education. This can help in getting best of the professional services from the nurses. It also helps in pleasure at work of the nurses by way of using their expertise in treating the patients.

Pleasure at work also depends on the usage levels of professional expertise gained through education. When the education is not helping in the employment or where there is no relationship between the education and the employment, the degree of professionalism and

the degree of pleasure at work are less when compare to others is observed in many researches. The same was acknowledged by the HR professionals in the hospitals during the interactions on sample survey.

Table 4.2.4 Distribution of sample on the basis of Experience

Experience	Frequency	Percentage	Valid percentage
Below 5	129	25.2	25.2
5-10	200	39.1	39.1
10-15	82	16.0	16.0
Above 15	101	19.7	19.7
Total	512	100.0	100.0

Source: Primary data

It is found from the table 4.2.4 that 39.1 percent of the nurses working in the corporate hospitals and considered in the sample are having 5-10 years of experience, 25.2 percent of the nurses in the sample are having below 5 years experience, 19.7 percent with above 15 years experience, and finally 16 percent of the nurses with 10-15 years respectively in the sample indicates the good mix of experience holders in the corporate hospitals in Chennai.

Nurses with different levels of experience, having different fields of expertise can help in sharing, learning and improving the professional expertise and multiple skills to working in different departments of super specialty hospitals. In some cases, it is observed that, the nurses with low level of educational qualification, having good level of understanding on the various specialty skills in the field of nursing services used in hospitals.

Table 4.2.5 Leadership style adopted in the working hospital

Leadership style in the working hospital	Frequency	Percentage	Valid percentage
Autocratic	145	28.3	28.3
Participative	367	71.7	71.7
Total	512	100.0	100.0

Source: Primary data

It is noted from the table 4.2.5 that the majority of the corporate hospitals are adopting participative management style in managing the hospitals and nursing services. It is due to the quality of patient and hospital services depend on the service quality of the nurses. Participatory management style provides a long way of relationship with the nursing staff and there by the pleasure at work of the nurses and service quality to the patients can improve from time to time. The existing environment in this dimension is quite appreciable and encouraging.

Table 4.2.14 Work scape factors and climate along with mean and SD

Work scape factors and climate related	Mean	SD
Respect from co-workers	3.93	1.211
Feedback from supervisors	3.49	1.416
Feedback from patients	3.98	1.148
Promotion	3.73	1.361
Career development	3.98	1.246
Responsibility allotted to you	3.94	1.215
Flexibility and independence allowed	4.00	1.076

The feeling of being treated equally	3.76	1.358
Salary	3.83	1.279
The rules and routines of supervision	3.94	1.199
The comprehensive goal and guideline in your hospital	3.76	1.371
The organizational climate	3.83	1.337
The quantity of work allotted to you (workload)	3.87	1.334
The equipments used in your hospital	3.88	1.167

Source: Primary data

It is noted from the table 4.2.14, that, Work scape factors and climate related variables affecting the level of pleasure at work among the nurses in corporate hospitals in Chennai are as follows. The primary factors are Flexibility and independence to work, respect from co-workers , feedback from patients, opportunity for career development, allocation of responsibilities well in advance, attractive salary, the rules and routines of supervision with the mean score of 3.94, the organizational climate, the reasonable workload, the equipment used in the hospital, and the quality of relationships with the patients are recorded in the sample survey.

The reasons quoted are multidimensional in nature and to the subject of reasonable in nature. The factors affecting pleasure at work in the service sector where the natures of services are critical and specialized in nature. Majority of the employees in the profession is women and have multiple roles in life. The key here is to balance both the personal and professional activities in day to day life. Hence, flexibility and independence at work related matters can enhance the quality of life and the level of pleasure at work among the nurses.

Hypothesis-I

Ho: There is no significant difference between the perceptions of permanent and temporary nurses with regard to factors influencing pleasure at work in corporate hospitals.

Table4.3.1 t-test results showing the perceptual differences between the nurses with regard to factors influencing pleasure at work of nurses

Factors influencing pleasure at work of nurses in private hospitals	Type of employment				t-value	P value
	Permanent		Temporary			
	Mean	SD	Mean	SD		
Working environment and climate variables	80.69	7.11	78.06	8.29	3.644	0.000**

Since P value is less than 0.01, the null hypothesis, There is no significant difference between the perceptions of permanent and temporary nurses with regard to factors influencing pleasure at work in corporate hospitals is rejected at 1% level of significance. Hence, it is concluded that, there is a highly significant difference between the perceptions of permanent and temporary nurses with regard to factors influencing pleasure at work in corporate hospitals with regard to the dimension of working environment and climate related variables among the sample.

Hypothesis-II

Ho: There is no significant difference between the perceptions of nurses working in different leadership styles with regard to factors influencing pleasure at work in corporate hospitals

Table 4.3.1 t-test results showing the perceptual differences between the nurses with regard to factors influencing pleasure at work of nurses

Factors influencing pleasure at work of nurses in private hospitals	Leadership style				t-value	P value
	Autocratic		Democratic			
	Mean	SD	Mean	SD		
Working environment and climate variables	78.26	8.70	80.54	6.99	3.108	0.002**

Since P value is less than 0.01, the null hypothesis, There is no significant difference between the perceptions of nurses working in different leadership styles with regard to factors influencing pleasure at work in corporate hospitals is rejected at 1% level of significance. Hence, it is concluded that, there is a highly significant difference between the perceptions of nurses working in different leadership styles with regard to factors influencing pleasure at work in the dimensions working environment and climate factors and professional factors related to nurses in corporate hospitals

Hypothesis-III

Ho: There is no significant difference between the age groups with regard to the various dimensions of factors affecting pleasure at work among nurses in corporate hospitals

Table: 4.4.1: ANOVA - relationship between the age groups and the perceptions factors influencing pleasure at work among nurses

Factors influencing job satisfaction		Age Group in years					F value	P value
		Below 20	21-30	31-40	41-50	Above 50		
Working environment and climate variables	Mean	74.73	79.41	81.22	82.94	78.25	14.151	0.000**
	SD	(9.25)	(6.49)	(7.42)	(6.66)	(6.78)		

Since p value is less than 0.001, the null hypothesis, There is no significant difference between the age groups with regard to the various dimensions of Work scape factors and climate variables, professional variables and organizational factors affecting pleasure at work among nurses in corporate hospitals is rejected at 1% level of significance. Based on the mean value, it is observed that the high level of pleasure at work is observed among the nurses belongs to the age group of 45-50 years when compared to others in the sample. It may be due to higher level of professional experience and the level of management and adapted to the nature of work and the management style. For other, it is a matter of time and experience to adapt to the situation and work culture.

Hypothesis-IV

Ho: There is no significant difference among the nurses with different levels of educational qualification with regard to the various dimensions of factors affecting pleasure at work among nurses in corporate hospitals

Table: 4.4.1: ANOVA -relationship between the different levels of educational qualification holders and the perceptions on factors influencing pleasure at work among nurses

		Level of Education						
		Diploma	Vocational Course	UG	PG	Professional	F- value	P value
Working environment and climate variables	Mean	75.85	80.55	79.45	80.67	83.96	14.910	.000**
	SD	(8.17)	(7.28)	(6.38)	(6.76)	(7.39)		

Since p value is less than 0.001, the null hypothesis, There is no significant difference among the nurses with different levels of educational qualification with regard to working environment and climate variables and professional variables as factors affecting pleasure at work among nurses in corporate hospitals is rejected at 1% level of significance. Based on the mean value the level of pleasure at work is high among the nurses belongs to professionally qualified group. This is due to the kind of expertise and the level of experience in the field of activity.

5. CONCLUSION

Work scape factors influencing pleasure at work of nurses of corporate hospitals are Flexibility and independence to work with the mean score of 4.00, respect from co-workers with the mean value of 3.93, feedback from patients with the mean score of 3.98, opportunity for career development with the mean score of 3.98, allocation of responsibilities well in advance with the mean score of 3.94, attractive salary with the mean score of 3.83, the rules and routines of supervision with the mean score of 3.94, the organizational climate with the mean score of 3.83, the reasonable workload with the mean score of 3.87, the equipment used in the hospital with the mean score of 3.88, and the quality of relationships with the patients with the mean score of 3.96 are recorded in the sample survey. The inferential statistics also indicated the positive and highly significant relationship between the demographic variables like type of employment, leadership style adopted, age, educational qualification and the pleasure at work of nurses of the corporate hospitals in the sample area. A care and concern on improvement of working conditions can help in improving the pleasure at work and there by quality of services in the health care industry.

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Study on Investment Behaviour of Women across Financial Products in Mumbai city

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ABSTRACT

This research aimed to establish and explain the behavior of women towards investment decisions based on demographics like gender ,income of women in mumai city. The study sought to fill this existing research gap by looking at the following specific objectives: First was to determine the personal factors that influence investment decision making among women, second was to determine the economic factors that influence investment decision making among income groups.

Keywords: Women. *Investment, Gold, Mutual fund,Equities, Fds,Investmwnt instruments*

1. INTRODUCTION

There are large numbers of investment options available in India, where one can invest to gain its benefits in the future. The aim is to earn profit through investment. The most important challenge faced by the investors is taking investment decisions, there are different segment in which an individual can invest such as share of companies, debentures, bank deposit, recurring deposits, mutual funds, post office saving, government securities etc. Preferential investment is the medium which studies different type of factor according to which the investment decision of the individual differs. In our research we broadly study the behaviour of women in Mumbai city. Investing in capital markets makes the people to increase their income comparatively more than other investments like fixed deposits.

2. RESEARCH OBJECTIVE

The primary objective of this study is to know the behaviour of the women across all financial products in Mumbai city.

Hypothesis to test

Ho: Average salary of investors investing in fixed deposits is less than 3.6L pa

Ha: Average income of respondents investing in fixed deposits is more than 3.6L pa

Ho: Gold investment (physical) is not independent of income

Ha: Gold investment(physical) is independent of income

Ho: Average age of investors investing in gold physical is less than 25 years

Ha: Average age of investors investing in gold physical is more than 25 years

Ho: Less than 70% of respondents investing in company fixed bonds are working class (job)

Ha: More than 70% of respondents investing in company fixed bonds are working class (job)

Ho: Investment in PPF is independent of age group

Ha: Investment in PPF is not independent of age group

3. LITERATURE REVIEW

According to said theories of gender socialization, men socialized to be more outgoing, aggressive and assertive while women to be more sensitive and emotional. The differences in gender role socialization between men and women can be realized as one key factor of gender variation in risk tolerance. Risk taking can also be linked with the notions of aggressiveness and assertiveness in the context of managerial decision-making behaviour.

In Bandura, (1986) “looked into both men and women who possessed the domain of decision making found that their risk tolerance was explicitly influenced by self-assertive and self-efficacy. 18 Do male have innate high risk tolerance, compared with female? Although there is no evidence to directly assert that risk preference is a trait and that there are biological differences, lots of previous studies suggest that men in general appear to demonstrate trends to take greater risks than women. Brooke Harrington, a sociologist at Brown University, insisted that females are experiencing with what she calls “demographic risk”: females live longer than males and they have higher probability of extracting from the work force because of their role as mother. Thus, they often keep low benefits of pensions and social security in retirement.”

McGregor, (2003). “Differentiated earlier works identified that females have lower risk patience than males in their financial activities, such as choosing low risk investment fund, or saving in fixed horizon. One literature investigated that female in United States invested their pension money more in risk free bond fairly than any high risk stocks. On the contrary, male favour to invest their pension in stocks”.

Zink Han and Karande (1991) employed llach’s (1964) instrument (Choice Dilemmas Questionnaire) for measuring risk-taking behaviour and found that women tended to be more conservative than men when the former perceived the situation to be ambiguous and hence had to make decisions under uncertainty.

Hudgens and Fatkins (1985) used a computer-simulated task to investigate gender differences in risk taking and concluded that men are more inclined to take risks than women. 19 In a survey of 27 original investigations of gender differences in individual risk taking, 20 studies indicated greater risk taking for men, 3 indicated greater risk taking for women, 3 suggested conditional differences, and 1 indicated no gender difference.

Palanivelu and Chandrakumar (2013) “The developing countries like India face the massive task of finding sufficient capital in their development efforts. Most of these countries find it difficult to get out of the nasty circle of poverty of low income, low saving, low investment, low employment etc. With high capital output ratio, India needs very high rates of investments to make a rise forward in her efforts of attaining high levels of growth. Since the beginning of planning, the stress was on investment as the primary tools of economic growth and increase in national income. In order to have production as per target, investment was considered the vital determinant and capital formation had to be supported by appropriate size of saving”

Dr. RutaKhaparde and Anjali Bhute said the perception of investors differs around on the basis of different factors like age, income, experience of investing, investment objectives and

individual social needs. The perception has been studied and analyzed on the basis of individual factors with respect to different macroeconomic variables seems to be bothering the stock market behaviour.

GnaniDharmaja .V, Ganesh .J, and Dr. Santhi .V made a study on the Individual Investor Behaviour with Special Reference to Geojit BNP Paribas Financial Service Ltd, Coimbatore. which is published on International Journal of Research in Management & Technology (IJRMT) in april 2012. The study aims at identifying the most and the least influencing factors of the individual investor behaviour. The analysis was divided into 2 phases which are Personal Factors and Behavioural Factors. The study revealed that accounting information is the most influencing group of the individual investor behaviour and neutral information is the least influencing group of the individual investor behaviour. It was found that there are also some behavioural factors like the investor's financial tolerance, emotional risk tolerance and financial literacy which influence the investor's behaviour.

DhimenJani and Dr. Rajeev Jain .Dean & Head, Department of Management, University of Kota, Rajasthan, India has done a comparative analysis of investors buying behavior of urban rural for financial assets. This study assesses the impact of various demographic factors like age, gender, education, income etc. On the buying behavioural pattern of both Investors. This was published on International Monthly Refereed Journal of Research In Management & Technology, Volume II, March'13. The data was collected from 200 respondents (100 urban and 100 rural). The survey was conducted during September/October 2012. The study revealed that Age Gender, Occupation, Educational Qualification, Income etc. Have significance impact on the buying behavioural pattern on rural and urban investors, besides that on the basis of priority provided by investor, both investor gives first priority to financial planner and second to risk and return profile, third past performance, forth tax consideration and fifth to the brand.

Another study by **N. Geetha and Dr. M. Ramesh** from Annamalai University on People's Preferences in Investment Behaviour states that There are a lot of investment choices and one must select the most appropriate one. The person dealing with the planning must know all the various investment choices and how these can be chosen for the purpose of attaining the overall objectives. This study examined on people's choice in investment avenues of Kurumbalur. Data were collected using structured questionnaires. The sample size of area is analyzed by tools selected for this study was two hundred and ten respondents were randomly selected from the town. Data were analyzed using descriptive statistics and chi-square technique. After analysis and interpretation of data it is concluded that in Kurumbalur respondents are medium aware about various investment choices but they do not know aware about stock market, equity, bond and debentures. The study is conducted by taking a limited number of sample sizes which is stated earlier. And this study reflects the perceptions of those respondents who are residing in Kurumbalur. All the age groups give more important to invest in Insurance, NSC, PPF and bank deposit. Income level of a respondent is an impotent factor which affects portfolio of the respondent. Middle age group, Lower income level groups respondents are preferred to invest in Insurance, NSC, PPF and bank deposit rather than any other investment avenues.

Mrs.K.ParimalaKanthi and Dr.M.Ashok Kumar published a research paper in September 2013 on Holding Behaviour of Individual Investors in Coimbatore District. This study says that the Investment culture of the individual investors is based on their personality characteristics. A study on the investment behaviour is more significant in the formation of policies for the financial market in general and protection of individual investors in particular.

The present study aims to investigate the holding behavior of individual investors on various investment alternatives. The result of the study enabled us to come out with suitable suggestions for the capital market regulators, and investors. Most of the investors prefer small saving schemes, bank deposits and insurance products for their future investments. This may be due to lack of awareness and/or due to interest in physical investments. Hence, it is necessary to propagate awareness and educate the features and similarities of the individual investors.

Dr. D. Harikanth and B. Pragathi made a study on role of behavioral finance in investment decision making in November 2013. According to this study Investment decisions also depends on the types of investors, risk tolerance capacity, education, occupation, age, sex, income, marital status, family back ground, living area and environment and attachment with the financial advisor etc. Using the principles of behavioral finance the present study explores the psychological concept of individual attachment style, especially individual investors to different available investment avenues and their investment preference process. This study indicates that there is a significant role of income and occupation in investment avenue selection by the male and female investors. For this an organized analysis has been made by taking primary data collected through structured questionnaire and secondary data for consideration.

Panda K, Tapan N.P and Tripathi, (2007) did a survey 125 investors covering the salaried and business class, from the city of Bhuvaneshwar were selected at random. The study revealed that majority of the investors relied on newspapers as the source of information. Financial journals and business magazines were ranked next to newspapers. A large number of investors were of the opinion that they were not in a position to get the required information from the company in time. A sizable number of investors were found to face problems while selling securities. "Safety and Regular Return" stood first and second with regard to the factors associated with investment activities. Equity shares were preferred for their higher rate of return by the investors.

Khaparde and Bhute (2012) found that the perception of investors differs on the basis of different factors like age, income, experience of investing, investment objectives and individual social needs.

Ganesh .J, and Santhi .V (April 2012) found that the Individual Investor Behaviour with Special Reference to Geojit BNP Paribas Financial Service Ltd, Coimbatore, which is published on International Journal of Research in Management & Technology (IJRMT). The study aims at identifying the most and the least influencing factors of the individual investor behaviour. The study revealed that accounting information is the most influencing group of the individual investor behaviour and neutral information is the least influencing group of the individual investor behaviour.

Jani and Jain, (September 2012) they made a comparative analysis of investors buying behavior of urban rural for financial assets. Their study assessed the impact of various demographic factors like age, gender, education, income etc. on the buying behavioral pattern of investors. The data was collected from 200 respondents.

N.Geetha and Ramesh (2013) stated on People's Preferences in Investment Behaviour that, there are a lot of investment choices and one must select the most appropriate one. The person dealing with the planning must know all the various investment choices and how these can be chosen for the purpose of attaining the overall objectives.

Shanmugasundaram and Balakrishnan (2011), they conducted research to find the factors influencing the behavior of investors in capital market. They showed that demographic factors influence the investors' investment decisions. Horvarth and Zuckerman (1993), said that biological, demographic and socioeconomic characteristics, together with his/her psychological makeup affects one's risk tolerance level.

Murithi Suriya, Narayanan and Arivazhagan (2012), in their study reveal that female investors dominate the investment market in India. According to their survey, majority of the investors are found to be considering two or more sources of information to make investment decisions. Most of the investors discuss with their family and friends before making an investment decision.

4. RESEARCH METHODOLOGY

Source of Data

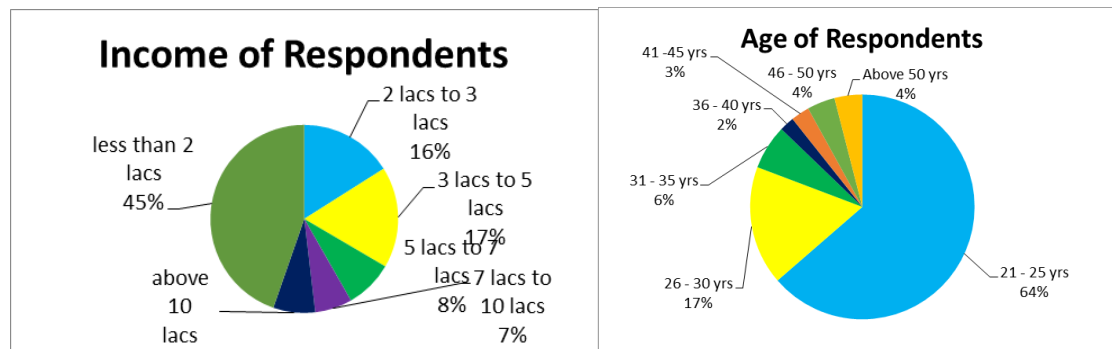
The Data required for the study is combination of primary and secondary data. the primary data is collected from questionnaire method and secondary data is collected by Social Site's (Facebook, Instagram).

The method followed is quantitative in nature. All the data has been collected via online questionnaire with the mix of phone calls as well. Sampling is done across various age groups, income groups, etc. Net number of samples used is 374 individuals. The following research represents the comparative study of individuals across various different financial products. All the data collected are analyzed by different hypotheses tests.

Analysis Methodology.

The collected data have been analysed by making use of hypothesis testing.

Charts about the sample Profile.



Observation:

1. 45% of respondent have less than 2 lacs of income.
2. Only 7% of respondent have above 7 lacs of income

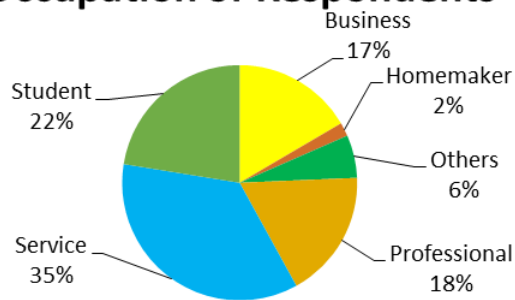
Insight.

In Mumbai there are a greater number of Lower Income Group as compare to Higher Income Group because of unemployment, lack of education.

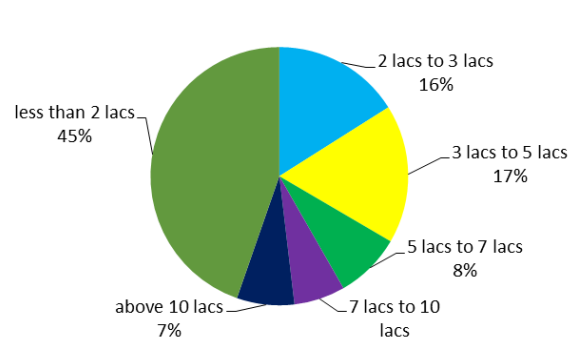
There are average number of Middle-Income groups.

64% of the respondents have age group between 21-25 years. 17% of the respondents have age group of 26-30 years.

Occupation of Respondents

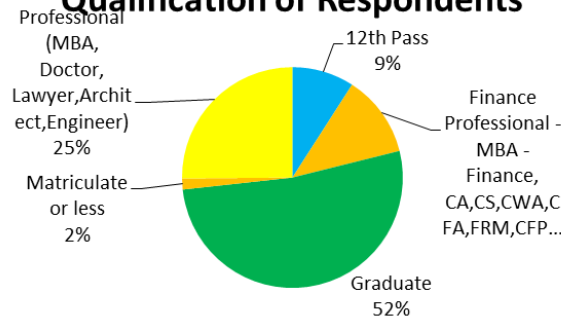


Income of Respondents



Observations: -45% of the respondents have income less than 2 lakhs. 16% of the respondents have income between 2 lakhs to 3 lakhs.

Qualification of Respondents



Observations: -52% of the respondents are graduate. 12% of the respondents are finance professional.

5. Data Analysis

T- Test

Ho: Average salary of investors investing in fixed deposits is less than 3.6L pa

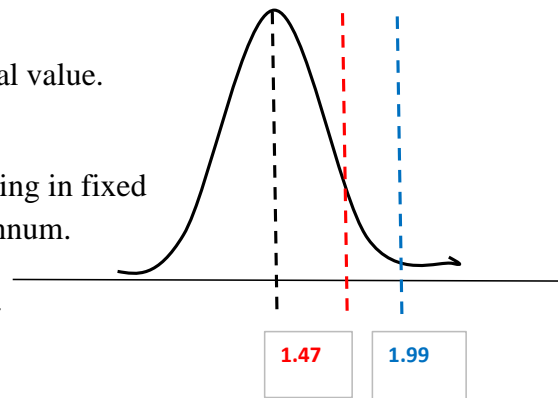
Ha: Average income of respondents investing in fixed deposits is more than 3.6L pa

Income slabs	Proportions					
Particulars Range	10% to 20%	20% to 30%	30% to 50 %	More than 50%	Up to 10%	Grand Total
2 lacs to 3 lacs	13		3		24	40
3 lacs to 5 lacs	9	4	3	2	27	45
5 lacs to 7 lacs	3	2		3	14	22
7 lacs to 10 lacs	8		2		5	15
above 10 lacs	2		5	1	11	19
less than 2 lacs	26	4	5	1	54	90
Grand Total	61	10	18	7	135	231

Reject the null

Observation: Observed value is greater than the critical value.
(1.47 < -1.99)

Insight: The above test proves that respondents investing in fixed deposits have salary more than Rupees 3.6 lakh per annum. This may be because majority of the investors are looking for a fixed income even though it may be low but has to be guaranteed without any market risks.



Chi-square Test

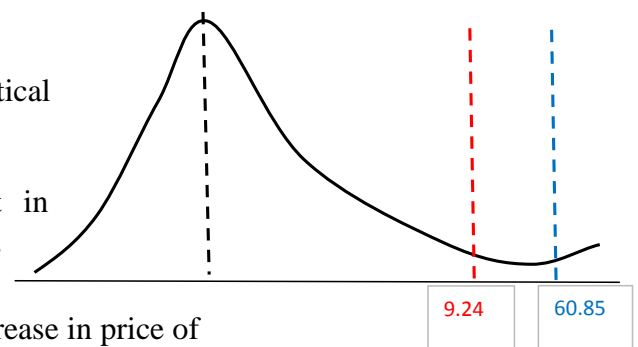
Ho: Gold investment (physical) is not independent of income
Ha: Gold investment(physical) is independent of income

Income slabs	Proportions						
Particulars Range	10% to 20%	20% to 30%	30% to 50 %	More than 50%	Up to 10%	Grand Total	
2 lacs to 3 lacs	7				23	30	
3 lacs to 5 lacs	4	1			23	28	
5 lacs to 7 lacs	5	1		1	13	20	
7 lacs to 10 lacs	2		1		7	10	
above 10 lacs	4	4			5	13	
less than 2 lacs	9	2	2	1	46	60	
Grand Total	31	8	3	2	117	161	

Reject the null

Observation: Observed value is greater than the critical value. (9.24 < 60.85)

Insight: The above test states that investment in physical gold is dependent on income factor. This may be because majority of the people investing in gold may be looking forward and expect the increase in price of gold in future. Also, people invest in gold for future occasions such as Marriage, birthdays, etc.



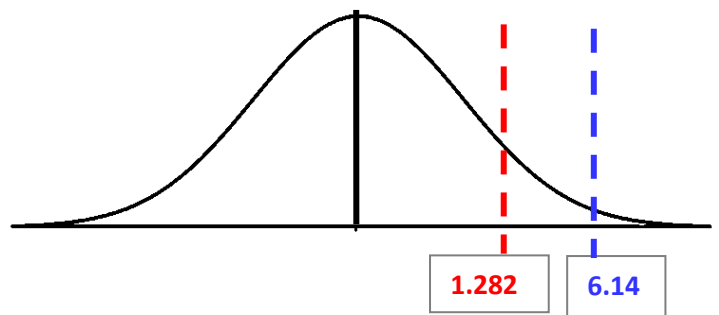
HYPOTHESIS

Ho: Average age of investors investing in gold physical is less than 25 years
Ha: Average age of investors investing in gold physical is more than 25 years

Row Labels	Count of Timestamp	Frequency	MID POINT	F*M	M-X'	(M-X')^2	F*(M-X')^2
21 - 25 yrs	102	102	23	2346	-4.55	20.73	2114.25
26 - 30 yrs	28	28	28	784	0.45	0.20	5.60
31 - 35 yrs	11	11	33	363	5.45	29.67	326.39
36 - 40 yrs	2	2	38	76	10.45	109.14	218.29
41 -45 yrs	3	3	43	129	15.45	238.62	715.85
46 - 50 yrs	6	6	48	288	20.45	418.09	2508.53
Above 50 yrs	9	9	50	450	22.45	503.88	4534.89
Grand Total	161	161		4436			10423.80

Mean (x')	27.55
Variance	64.74
S.D	8.05

N Ho= Average age of investors investing in gold physical is less than 25 years Ho<25
A Ha= Average age of investors investing in gold physical is more than 25 years Ha>25
T T test
T Right Tail
Alpha 10%
C: t-critical **1.282**
O: t-observed
Observed
 x' 27.55
 μ 25
 s 8.05
 sqrt (n) 19.34
 x'-μ 2.55
 s/sqrt(n) 0.42
t_{observed} **6.14**
A 10%
D to>tc **Reject the null**



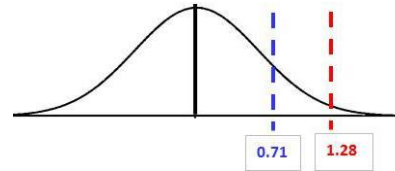
Conclusion Ha= Average age of investors investing in gold physical is more than 25 years

Ho: Less than 70% of respondents investing in company fixed bonds are working class (job)

Ha: More than 70% of respondents investing in company fixed bonds are working class (job)

N Ho<70 Less than 70% of responde
 A Ha>70 More than 70% of responc
 T Right Tail

T P Test
 A 10%
 P 90%
 C **1.28**
 O



Zobserved (Zo)
 X 84
 n 116
 p' 72%
 p 70%
 q 30%
 p*q 21.00%
 sqrt[(p*q)/n] 0.04
 p'-p/sqrt((p*q)/n) 0.57

P **0.71**
 A 10%
 D P value is less than Alpha p valt
 Failed to reject the null

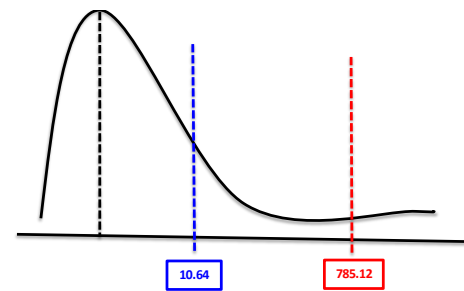
Conclusion Less than 70% of respondents investing in company

HYPOTHESIS

Ho: Investment in PPF is independent of age group
 Ha: Investment in PPF is not independent of age group

Row Labels	Count of Timestamp(fo)	fe	(fo-fe)	(fo-fe)^2	(fo-fe)^2/fe
21 - 25 yrs	238.00	53.43	184.57	34,066.61	637.61
26 - 30 yrs	64.00	53.43	10.57	111.76	2.09
31 - 35 yrs	24.00	53.43	(29.43)	866.04	16.21
36 - 40 yrs	8.00	53.43	(45.43)	2,063.76	38.63
41 -45 yrs	10.00	53.43	(43.43)	1,886.04	35.30
46 - 50 yrs	15.00	53.43	(38.43)	1,476.76	27.64
Above 50 yrs	15.00	53.43	(38.43)	1,476.76	27.64
Grand Total	374.00				785.12

T Chi- squared
 A 10%
 P 10%
 C **10.64**
 O **785.12**
 P 0.00
 A 0.10
 N **Reject the null** p value<alpha



Observation: Investment in PPF is Not independent of age group

Hypothesis

Ho	More than 40% women prefer to invest mutual fund
Ha	Less than 40% women prefer to invest mutual fund

Proportion of Males invested in Mutual fund

Ho $\mu > 40\%$
Ha $\mu < 40\%$
Tail Right Tail

Test P-Test
Alpha 10%
Probabillity 90%

Critical 1.28

Observed values

x 101
n 216
p' 47%
p 40%
q 60%
p*q 24%
(p*q)/n 0.11%
sqrt(p*q)/n 3%
p'-p 7%

Observed 2.03

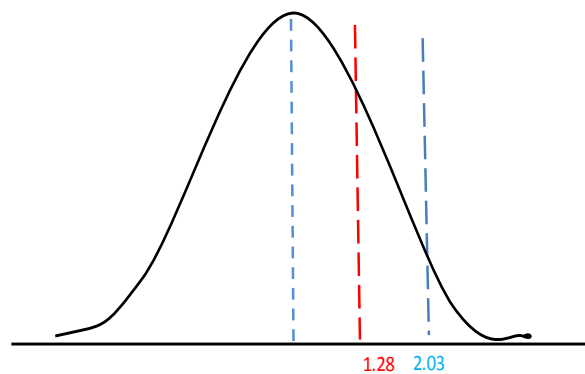
P-value 0.02

Alpha 0.10

P-value is less

then alpha reject

D the null



Observation:

Less than 40% of women do investment in Mutual Fund.

Insight:

Women always try to take lower risk. In Mutual fund there is also risk of loss, some of the women don't want risk factor in their investment instead of mutual fund they will go with FD, and post office.

6. CONCLUSION

The statistical tests and inferential analysis lead us to conclude the average age of investors investing in gold physical is more than 25 years. Less than 70% of respondents investing in company fixed bonds are working class (job) Investment in PPF is independent of age group. The above study shows the different patterns and individual behavior of women investors across all financial products in market bearing risk and risk free. The sample data included a total of 374 respondents combining of different age groups, income groups, occupation, etc. The above study revealed a decent number of individuals prefer to invest in risk free instruments especially Fixed deposits. The people investing in risk including instruments include mostly the young age group. Also, in addition the investment in gold is also high irrespective of gender and occupation.

7. LIMITATIONS

Data collected using the Primary Source was limited to only Online Forums and the ones who didn't have the means of access to internet were excluded from the research. The data collected may have been biased for the reason that the respondents were only from a closed specified area (Mumbai) only so the inferences may not apply to the entire population.

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The Study of Green Technology in Environment: Sustainable Development in India

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ABSTRACT

It is essential that an appropriate model of green building be used by the administrators and professionals. The global problems of environmental degradation have forced the society to rethink about the way of development and evolve the concept of sustainable development. Indeed, the new environmentally friendly technologies are fundamental to attain sustainable development. Various green initiatives are being taken to maintain and improve the quality of environment that might flourish on the new resource efficient and sustainable thinking society of the future. This paper tries to establish environmental system improvement basic framework from the perspective of the green technology innovation model, concretely including the improvement of environmental laws and regulations system, environmental accounting system, environment technical standard system and environment economic incentive system through the comparative studies on the green technology innovation and the traditional technological innovation and the difference analysis of environmental system improvement,

Keywords: *Green Technology, Energy Efficiency, Sustainable Development, Environment Protection*

1. INTRODUCTION

The green technology innovation and the traditional technological innovation Green technology innovation create economic interests at the same time protect the environment, it requires innovation subject to strengthen production chain, improve the process innovation and the production of waste recycling, to avoid the net consumption of resource dependent. The traditional models of technological innovation based on one-way linear basis, in the traditional technology innovation activities, human as unlimited demand, production and consumption, resulting in a depletion of resources, environmental pollution, the development of economy and society appeared unsustainable.

The content of environmental system of green technological innovation model
The development of green technology innovation can not be separated from strict environmental laws and regulations. The green technological innovation changing from idea to reality behavior should be taken environmental legislation as the guide. So this paper suggests promoting green technological innovation through environmental legislation and there are matching laws and regulations system at all levels. In these laws and regulations, it regulates incentive provisions for the environmental protection industry, the development of environment-friendly products, resource recycling and regulates different responsibilities for different subjects.

Environmental system improvement from the perspective of the green technology innovation model

Through the comparative studies on the green technology innovation and the traditional technological innovation and the difference analysis of environmental system improvement, this paper tries to establish environmental system improvement basic framework from the perspective of the green technology innovation model. As shown in the following figure

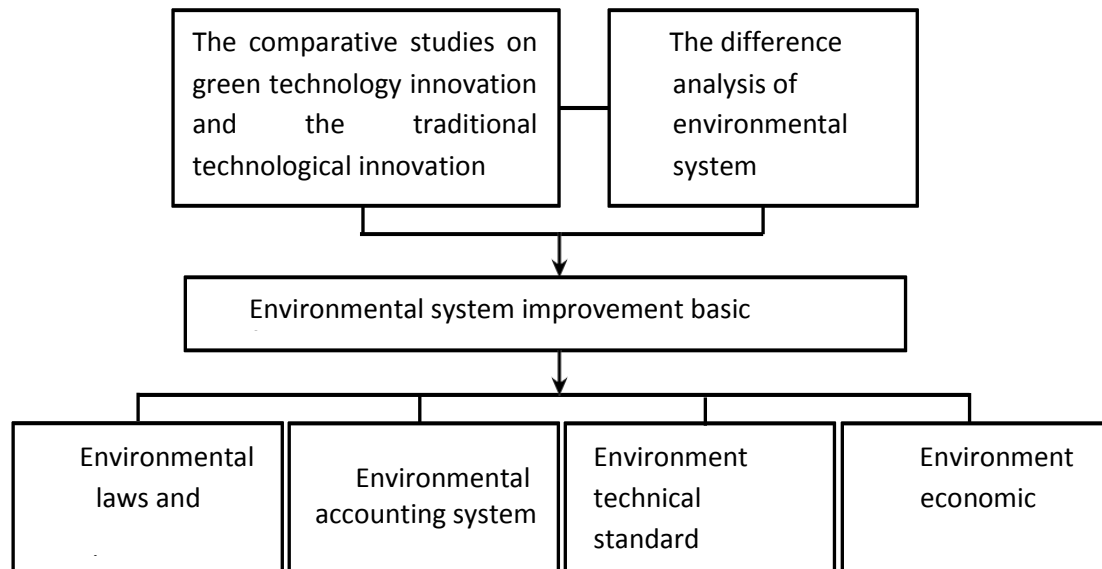


Figure : Environmental system improvement framework of the green technology innovation model

Environmental accounting system

The improvement of current accounting system is not including the environment and natural resources cost. Environmental accounting system is still in the stage of research and exploration in our country. The value measurement of the environmental costs and benefits has a certain degree of difficulty. This paper suggest: promote the research and practice work on environmental accounting system step by step; unify the improvement of environmental performance and financial performance; guide enterprises to actively concern about the management behavior impacting on the environment, rational develop and utilize of resources, improve resource reuse rate, eliminate the negative impact on the environment.

Historical Background

Economic development is closely linked with the energy development. Most of the world's commercial energy supplies are provided by fossil fuels, with the associated emissions causing global environmental problems. It is feared that not only these levels of energy production and use from current energy sources are difficult to achieve but also unsustainable. Therefore, energy use efficiency needs to be increased to moderate the growth of energy while the contribution from clean energy sources needs to be increased to reduce adverse environmental impacts of energy usage.

Green energy offers a promising alternative to traditional energy sources. The fact that renewable energy accounts for only a modest proportion in meeting the world's (commercial) energy demand means that there is a missing link in their potential and their implementation - the barriers in their implementation. These barriers (either financial or non financial) need to be identified and addressed in order to design innovative policy approaches for the international and domestic financing or renewable energy technologies. Renewable energy can play an important role in helping to meet basic energy needs

through the use of modern technologies Green technologies. The Rio Declaration adopted at United Nations conference on Environment and Development in Rio emphasizes entitlement of healthy and productive human life in harmony with integration of environment protection in the development process. The Earth Summit at Rio adopted Agenda 21 on June 14, 1992, which proposes various actions to be implemented from now and into the 21st century to accelerate sustainable development.

The green technology policy to provide direction and motivation to continuously enjoy good quality and a healthy environment should be based on four pillars:

- Energy: Seek to attain energy independence and promote efficient utilization.
- Environment: Conserve and minimize the impact on the environment.
- Economy: Enhance the national economic development through the use of technology.
- Social: Improve the quality of life for all.

2. GOALS OF GREEN TECHNOLOGY

Every technology has a goal to achieve in order to fulfill the needs of the present generation. But the sophistication shouldn't be only one sided, we should also consider its drawbacks. The main goals of Green technology are meeting the needs without actually damaging the resources or environment. It implies using the ecofriendly products. If we go on producing a new product each time, there will be a huge loss of resource. Then here comes an approach of re-using the used material. In detail, we call it 3R concept which includes:

1. Reduce
2. Reuse
3. Recycle.

'Reducing' means minimizing the excess production or lowering the wastage. By being wastage conscious, we can obtain sustainable living for the present and the generations to come. For example, instead of using paper for every purpose we can switch to online document. The other way for reducing the wastage is reusing the products with the help of recycling process. Recycle means the process of taking the used material, process it and make it as new. By this, levels of pollution can be limited. Materials such as glass, paper and metal can be easily recycled. On an average every US citizen produces 730kg of wastage every year for US alone. Some materials like Aluminum coke tins take up to 50 years to degrade into earth. So these needs to be recycled than dumped. Recycling these tins saves energy equal to run TV for three hours. Recycling a pound of steel saves energy which can be used to light a 60-watt bulb for a day. Each newspaper should be recycled for re-use instead of cutting down trees for fresh papers.

3. ADVANTAGES OF GREEN TECHNOLOGY

The main advantages of green technologies are as follows:

- ENERGY SAVING
- ENVIRONMENT FRIENDLY
- COST EFFECTIVE

- SAVE POWER
- REUSE OF NATURAL RESOURCES

4. RECOMMENDATIONS

The recommendations are grouped into three action areas:

- I. Generating new sources of revenues to fund green technologies
- II. Intensifying dialogue on existing national green policies
- III. Spurring new international co-operation on green technologies.

I. Generate new sources of revenues to fund green technologies: Green technologies not yet price competitive with fossil-fuel technologies. Governments must help in cutting-edge clean technologies and create the framework conditions that enable renewable-energy companies to bring their products to the market. Hence, a key task of any government must be to generate new sources of private and public revenues. Where possible, governments should try to generate incentives for additional private investment in clean-technology research and projects; when private markets fail, public spending must play a role.

II. Intensify dialogue on existing national green policies: Individual countries could profit from other countries' experiences. Best practices should be copied while wrong paths do not need to be taken.

III. Spur new international co-operation on green technologies : In the light of the various International communique, the following steps should be taken to create a more effective framework for international clean- technology cooperation:

- 1. Create a Clean tech Investment Forum:** The online forum would serve as a one-stop hub with an efficient search system connecting public money, private investors, and clean tech business/entrepreneurs at one's fingertips.
- 2. Harmonize green technology standards, codes and contractual principles:** Supranational harmonization of standards is important in enabling the uptake of eco innovation and clean technologies and facilitating their dissemination in global markets. In many cases, regulations and standards are more effective than direct government funding.
- 3. Create a best-practices expert panel on green technologies:** An international panel of stakeholders and experts should define, and advise on, best. In its effort to define the elements of successful policy frameworks for encouraging green technology, the panel needs to take into account regional, geographic and socioeconomic differences among countries and sub-regions.
- 4. Improve the knowledge sharing ability of multi-industry multi-technology clean tech research centers:** No centralization of research should be pursued rather a bundling of expertise from leading universities and institutes in order to enhance cooperation between regional research centers.
- 5. Define legitimate forms of public "green" aid and reduce environmentally harmful subsidies:** Uniform definitions of what constitutes legitimate green objectives for state aid will help avoid judicial challenges. To ensure that public spending achieve climate goals without running afoul of state-aid rules and trading agreements, various countries should take the initiative.

6. Open and sustain the markets for green technologies through better trade policy: To facilitate the expansion of the cleanest technologies, trade barriers for proven clean technologies should be lifted, including discontinuing direct or hidden subsidies to manufacturers.

5. CONCLUSIONS

The green technological innovation is the fundamental way to achieve sustainable development of social economy. This paper compared the green technology innovation and the traditional technological innovation, and tried to establish environmental system improvement basic framework from the perspective of the green technology innovation model, such as the improvement of environmental laws and regulations system, environmental accounting system, environment technical standard system and environment economic incentive system.

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Volatility of Indian Stock Markets during COVID-19

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ABSTRACT

COVID-19 has caused various changes and has a huge impact on each and every sector and at all walks of life around the globe. The outbreak of COVID-19 has affected the Economy and Financial Markets around the globe. Similarly, is the impact on the Indian Economy and Financial Markets. Due to all the disruptions around the globe, the Indian Financial Markets surged to be highly volatile. Due to the situations aroused out of COVID-19, its effects on the Financial Markets have been investigated in this research and also how the citizens of the nation reacted to this fluctuation. This research paper also displays how the Financial Markets experienced a sudden change in its volatility. The suitable timeline referred is 22nd March to 1st June (pre- and post-lockdown). Further, the study has attempted to make a comparative analysis of the return of the stock market in pre-COVID-19 and during the COVID-19 situation. The Judgement Sampling method is considered to find the views from the population who have a deep knowledge and are biased to the fundamentals of the same. The research findings show a sharp volatility among the Indian Financial Markets. The paper also tried to investigate what was the core reason for the Indian Financial Market to surge sharp volatility.

Keywords: *COVID-19, Indian Financial Markets, Volatility, Effects of volatility on population, Global Economy*

1. OBJECTIVES OF THE RESEARCH

- i. To Understand & Investigate the volatility in Indian Financial (Stock) Markets
- ii. To understand the impact of the pandemic on stock markets
- iii. To understand the impact of Volatility of stock markets on the population

2. RESEARCH METHODOLOGY

- i. Quantitative method of collecting primary data with the help of Survey (Questionnaire) is used.
- ii. Available secondary data was used for the study wherein various internet articles and websites are used.

3. LITERATURE REVIEW

A detailed review of literature has been made on the volatility of Indian Stock Markets during COVID-19 to find out the research and to identify the relevant aspects for the study. It is essential for research review to relate literature study as it also helps to understand every aspects and draws light onto the scope of the study.

Authors Rashmi Chaudhary, Priti Bakhshi and Hemendra Gupta analyzed the impact of COVID-19 on the Indian Stock Markets on multiple measuring terms or with the help of various methodologies of Volatility, Standard Deviation, Skewness and Kurtosis of Index returns, concerning two composite indices and eight sectoral indices on a daily basis data from January 2019 to May 2020 using GLS regression.

Their findings from the very beginning to the end resulted as they saw a sustaining positive returns from the Healthcare sector of the nation as it was highly volatile during COVID-19 crisis. It was also found that Healthcare sector and other Indexes were having an Inverse relationship between them as Healthcare seem to rise constantly regardless of the various indexes.

Another finding of the paper was that the Indian Stock Markets depicts roughly the standard deviation compared to the developed economies, but has higher positive kurtosis of returns which made the market more volatile.

4. INTRODUCTION

The COVID-19 pandemic has led a drastic loss of human life worldwide and unpredictable challenge to public health, food, industry and overall sectors around the globe. The social disruption and economic downfall caused by the pandemic is very devastating, which resulted millions of people of risk of falling into extreme poverty, Millions of enterprises faced huge losses and many of them went into debts. Half of the global workforce were at risk of losing their livelihoods. The lack of social protection and access to quality healthcare has lost access to productive efficiency. Due to losing the jobs many people are unable to feed themselves and their families, still many daily wage workers and self-employed due to low and irregular income are forced to continue walking to their natives in very unfavorable conditions.

Although there are very limited literatures related to the impact of COVID-19 on financial sector or on business overall, but some studies have brought exiting results, The Ferneiai (2020) in her research found that the finance, insurance sectors and government payers whose finances are actually stretched by COVID-19 will be most likely to cutoff furthermore reimbursements. Capitalvia (2020) in their research/blog found and stated the volatility of Indian Stock Market is seen as major increase, as market halted twice in March 2020, due to lower circuit, as shown by VIX index, the COVID-19 had pushed the Indian benchmark index like Sensex and Nifty-50 to a level similar faced during Global financial crisis of 2008. The stocks of the industries especially hospitality, tourism and entertainment has been adversely affected and fallen by over 40%. As per Sidharth Sachdeva (2020) in his research COVID-19 and the Indian Stock Market movement stated that, the markets are not either not paying adequate seriousness to the pandemic or anticipating the discovery of vaccine more optimistically.

Indian Stock Markets recovering from lows hit in March 2020 has surprised many. The S&P, BSE Sensex, Bellwether index has recovered around 34% (Between March 23-22 June), Shrugging off surging COVID-19 cases, says Renu Yadav (2020) how to prepare for the next Market crash.

5. DATA COLLECTION METHOD

The expertise views, opinions and thoughts are provided which is considered to be appropriate for the research. The primary data was collected from working population and those who belong to the same field. A questionnaire was planned and drafted for an effective survey. Afterwards it was distributed and analysed, the final findings and conclusions was derived out of the survey. Judgement Sampling method is used for its easy and simple to adopt feature. It also enables the sample to be proper and true representative and it prevents any inclusion of any irrelevant item into the research.

6. SAMPLING

The method used for sampling the data is Judgement Sampling Method which is also known as purposive sampling. This sampling technique is used in which data is analysed on the basis of knowledge and personal/professional judgements. The sample acquired in this research is a number of individuals who possess a deep knowledge and information along with multiple working professionals. The biasness of the sample will preach more accurate information which is valuable for the research.

7. SURVEY RESPONSES

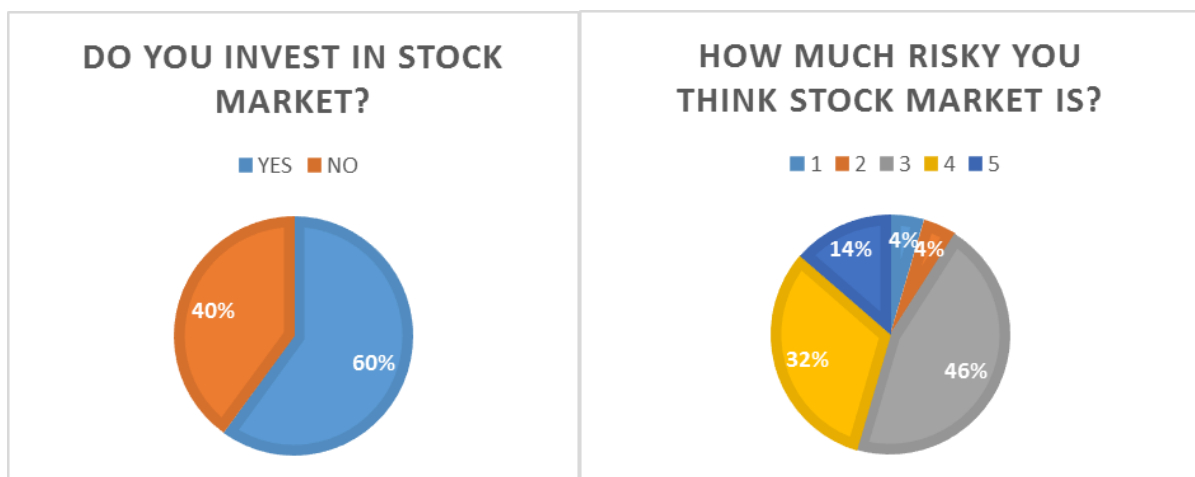


Figure 1

Figure 2

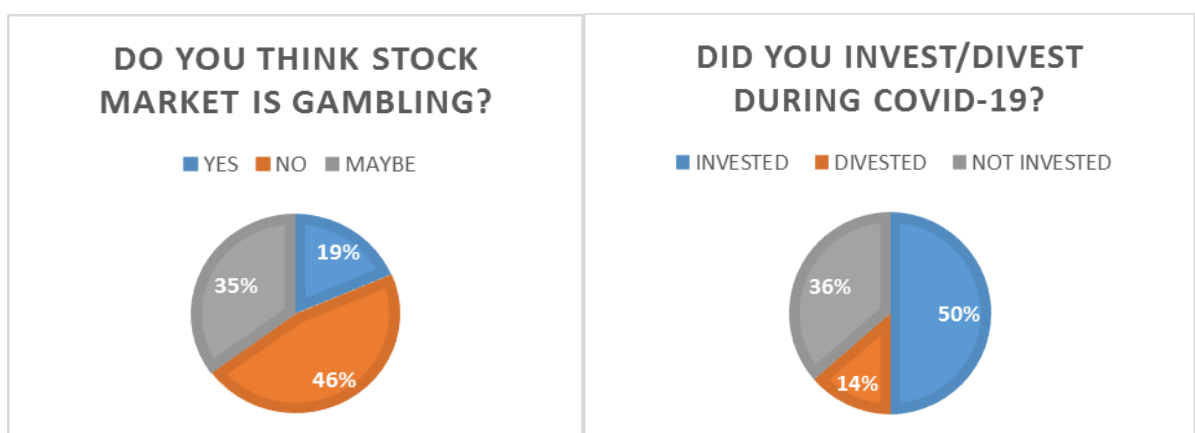


Figure 3

Figure 4

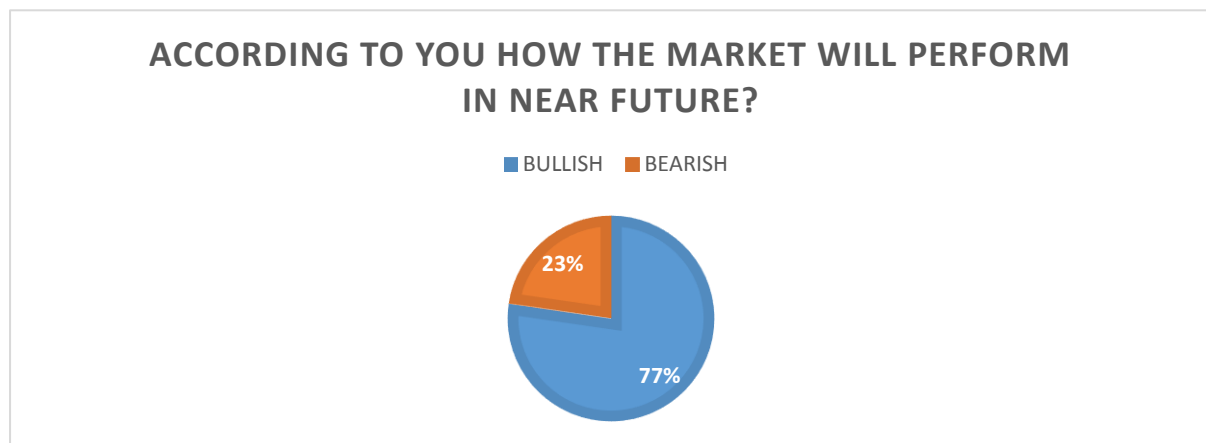


Figure 5

8. SURVEY FINDINGS / CONCLUSION

The data presented above refers that more than half of the sample do invest in Stock markets during pandemic. As many of them consider it too risky during the pandemic. A small part of the population does consider Investing a Gamble as ‘Higher returns comes with higher risks’. We can see that half of the population invested their money in Stock Markets during the pandemic, we can consider them as ‘Risk Takers’. Many of them invested in Stock Market with a view of market being ‘Bullish’ in future.

So with a mixture of various reasons the market was too volatile as most of the population squared off their investments during pandemic for various reasons like lack of funds in hand, losing jobs, a view to sustain life with limited funds, etc. this led the market to touch its lower limits while on the other hand the investors a.k.a the risk takers took the advantage of it and started investing, this led the market to regain its upper limits, which in return yield them a good profits instead of the pandemic. If we ask the risky taking investors that where do you invested? They will simply reply- “in the pharma sector as it was the only sector to grow instead of pandemic. The pharma sector did perform well as it was the only sector to tackle the pandemic.

So with the final statement we can say that the market was too volatile due to heavy investments made by the risk taking investors and heavy divestments made by the cautious investors.

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Women Entrepreneurs in India: Problems and Perspectives with regards to Micro-finance Credit in Mumbai Suburbs

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ABSTRACT

Microfinance in the India has seen tremendous success from past twenty years. The Self-Help Groups which is also called as SHG have found an important place in new micro-financial management activities. Hence there is a need for analyzing the problems faced by the SHG members for availing the micro finance loan in India. Women are working in different sectors, right from traditional agro-based society to modern money-making business in primary and tertiary field. However, the main issue is that in such a traditional society woman lack support and cooperation of their family members and the society. Stiff competition from the male counterparts and other established segments in the society lead women entrepreneurs to face hurdles in their venture. The present paper focuses on these challenges and recommendations in solving those. The Results showed that the lack of proper guidance is the first and foremost problem faced by the sample SHG members. The formalities for getting the loan has been secured as second rank followed by Difficulty to approach the authorities for getting loan is the third important problem. Further, the research shows that the problems are differ among various categories of respondents. Hence, it is suggests that the government and NGOs should take necessary steps for providing proper guidance to the SHG members.

Keywords: *Micro finance, challenges, women entrepreneurs, competition*

1. INTRODUCTION

In Gujrat, Self-Employed Women's Association (SEWA), was first in India to take initiative to introduction of micro finance, which established SEWA Bank in 1974. Those who want to grow the business in the plural area, this Bank provide financial Service to those individuals. Poverty Eradication Mission 1998 was one of the successful initiatives taken by this bank in Kudumbashree, in Kerala state. The women's from both urban and rural area comes together to fight for their rights and to help empower themselves, through the community organisation of Neighborhood Group (NHG) which was led by all females. In this Neighborhood Group all the women's work in various issues like agriculture health and nutrition. They can give micro credit while working in the scheme by collecting the some income. So the underprivileged area is promoted by some of this small skill initiative taken to build financial independence.

In India to cater large population in rural area it is very much needs to provide microfinance facilities. In India the main objective of the microfinance is to promote social and economic development at the Grass root level by community-based approach, increase in income of household and empowerment of women.

Although we say that women are moving ahead in every occupation, the entrepreneur world is still dominated by the male counterparts. In most of the developed countries of the world,

women operated enterprises are increasing rapidly. However, this is not yet the phenomena in the developing countries like India. Flourishing activities of women in business would also enable economic wellbeing of the nation.

Education industry has opened up wide opportunities to women entrepreneurs, but the required societal changes are not in consistency to provide the growth platform to the women entrepreneurs. The challenges which are faced by women entrepreneurs in the present day are lack of cooperation and support and Cutthroat competition from the rivals.

2. REVIEW OF LITERATURE

- **Dr.Valasamma Antony (2007)** mentioned that, the male domination and other prejudices attached to women in Indian society are yet to be challenged. Educating them in the nuances of business and managerial skills is very much necessary. Liberal finance by the organizations and other support systems, particularly by the Government, should be given to them. Success stories of other women entrepreneurs also would help them motivate. Anyway, it is high time that the women step into the mainstream towards the overall economic and social development of our country.
- **K. Sundar, J. Gopu, Syfil Ali (2001)** recommended that women entrepreneurs from different fields have the potential and can establish enterprise of their own. What they need is encouragement and support from the family members, especially their spouse as well as Government and the society. Without their support, the growth of their ventures would not be possible.
- **Arunthathi Chaltopadhya (2005)** emphasized that economic empowerment is elevating the status of women in our society. One possible towards achieving this end could be through entrepreneurship development.
- **K. Lavanya Latha (2006)** suggested that the for the success of women entrepreneurs it is important to give timely financial support, hard work, self-determination, self-confidence and personality traits.
- **Nagayya (2000)** in his article entitled “Micro-finance for Self Help Groups” stated that the fast emerging tool for promotion of income generation in enterprises is providing credits applied to the poor by informal arrangement through Self Help Group. The author has also reviewed the initiative which is taken at National level with the view of institutional arrangement to support this program for poverty eradication among the poor with main focus on women.

3. OBJECTIVES

- 1) To identify issue related to lack of cooperation and support and cutthroat competition faced by women entrepreneurs.
- 2) To assess the various problems which is faced by sample women beneficiaries on availing the microfinance loan.
- 3) To find out the measures to overcome these crisis.

4. SCOPE

The research is dealing with women SHGs and problems associated with micro-finance in Mumbai Suburban Area. It includes an analysis of socio economic conditions of SHG, motivational factors for joining the SHG, problems in getting the micro finance loan in the study area on the basis of the opinions of SHG members which were collected through interview schedule. The present study does not cover the men SHGs in the study area.

5. DATA AND METHODOLOGY ADOPTED FOR THE STUDY

Both primary and secondary sources of data are chosen for the study. Due to lack of access to study the women entrepreneurs on field, it was decided to interview them. With this regard, total 32 women entrepreneurs from the entire field were chosen as the sample for the present research study. Thus, telephonic interview of women entrepreneurs engaged in different activities were taken. This interview was unable to provide insight and guide on the objectives of the study. The secondary data was collected from published sources such as search engines, online study forum, research journals and magazines (both academic and non-academic). The conclusion from the interviews was drawn to fulfill the objectives of the study.

6. RESEARCH FINDINGS

After the telephonic interviews with the women entrepreneurs in Mumbai city, it is found that majority of them are entering into the profession and are the part of Self-Help Group because of few important reasons such as improving their social and economic status, promoting saving habits, obtaining financial support for starting up of the enterprises, initiating group activities, having financial independence, lack of permanent jobs for husband, motivation by NGOs, families and friends. Particularly, women entrepreneurs have based the basic problems when it came to getting micro-finance loans. Most common among them are difficulty faced while approaching the authorities for sectioning the loan, improper guidance by authorities, less awareness of loan schemes and institutions, tough form filling task, delay in sanctioning of loans, lack of cooperation among the members and authorities expecting commission. Apart from these basic problems, the women entrepreneurs also faced the main issues with following two core problems –

6.1 Lack of Support

The main hurdle, which the women entrepreneurs face, is that she is not able to step out of the house to establish her career. The confidence to do so is completely lacking. Usually women are not able to manage their personal and professional lives together (46 percent of the respondents opined this). Doing justice to their business venture and at the same time managing the family is not very easy for the women entrepreneurs. At times she feels pressurized and in such a situation she gives up on her ventures, leaving them incomplete.

Another root cause of the situation is lack of support from the family members. It was mentioned by 63 percent of the respondents that only if the women entrepreneurs find adequate support from her family in terms of moral and financial support, they could make their lives a great success. Moreover, their male counterparts are of the view that why do you need to work when we are earning. It was noted from the interview that nearly 24 percent of the respondents do not have support from their male counterparts. They are suppressed and said that it is better to sit at home and look after the domestic chores and children. With such a situation she is restricted in four walls of houses.

While interviewing the women entrepreneurs, it was mentioned by few of the ladies that the family members, particularly their husband and in case of unmarried women their father, do not allow them to carry on with their ventures as it feel that such type of ventures are not safe for women and there are chances of molestation. Even some husbands, particularly, uneducated, doubt the character of their wives that she might have extra marital affairs because of which she is moving out of the house every day. Nearly 12 percent of the respondents are depressed with these phenomena. These women are in great dilemma as to continue doing the business or not.

If it is a nuclear family then the support of the spouse and the children is very important. On the other the females belonging to a joint family look forward towards the support from there in-laws and other family members. In the beginning of the venture everything seems to be

bright and all right, but later on the difficulty start rising up. The working of women in this respect is hindered (50 percent of the respondents found that they are facing great challenges now, venturing their projects).

Many of the times it is also difficult for the women entrepreneurs to find right contact for supporting their business ventures. These contacts are usually helpful for women in financing and expanding their activities. It has been seen that the urban women are getting the additional support from various agencies such as NGOs, business houses and other organizations who also guide these entrepreneurs throughout their ventures.

6.2 Cutthroat Competition

The most important challenge, which women entrepreneurs face, is cutthroat competition mostly from the organized sector of the economy as well as from the male entrepreneurs. Around 60 percent of the respondents believed that this problem is being enhanced by inadequate capital to start up with the ventures as well as lack of proper advertising required to sell the products in the market. Some of the women entrepreneurs face situation, where the quality of their product is challenged. Here one important fact lies ignored, that women entrepreneurs are more sincere and serious in their work.

Around 73 percent respondents opined that stiff competition in the market unleashes women entrepreneurs from displaying their full potential in carrying out business. whatever incentive the government has provided does not allow the women to stand the growing competitive market. In this relation, Government is helping women entrepreneurs with schemes for retaining and advancing in their respective ventures. This is opined by only 12 percent of the respondents, who are aware of the Governmental schemes.

Thus, nearly 54 percent of the respondents felt that competition, which the women entrepreneur faces is in the form of product quality, prices of the product, profits, packaging, marketing, advertisement and technological innovations. Sometimes it is even seen that the competitors may be involved with bulk production and thus may receive concessions and at various levels of production. Not only the prices but also the latest trend in the market can also be adopted by the completing form, leaving the women entrepreneurs behind the market flow.

7. CONCLUSION

From the above discussion it can be concluded that the women entrepreneurs want to reach out in the society making their own significance towards the economy of the nation. It is expected that the barriers here are lack of cooperation and support and stiff competition needs to be overcome. The present study investigated the various problems faced by the women SHG members and impact of the microfinance loan on empowerment of sample women beneficiaries in the study area. Most of the members are not well educated and they are not familiar with the rules and regulations for availing the banking services. They are in need of proper guidance. The research finding showed that the problems are differing among various categories of respondents. There lays not only the government responsibility to tap the potential of women entrepreneurs, but also the family members of these women entrepreneurs who can help out her in full force. Government needs to see that how these women entrepreneurs can organize themselves into a formal organized sector so that they do not face event competition. At the same time it becomes the responsibility of the family members to support these ladies with time and other household chores. Traditional thinking of male dominated society has to be overcome so as to develop a new path for the new women entrepreneurs.

Based on the research finding the following recommendations are made to the authorities who is regulating SHGs.

- The government and NGO's should take necessary steps for providing the proper guidance to needed people to get the microfinance loan.
- The Banks can provide proper assistance for filling the loan application forms.
- Further, the bank formalities should be simplified. The single window system may be introduced for granting micro finance loan to the Self Help Groups.
- The proper training should be given to SHG representatives and animators regarding the bank loan formalities.
- Further, the schemes announced by the government are not reaching the SHG members. Hence, it is necessary to circulate all the new schemes to the rural people through proper monitoring system and guidance.

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Boon and Bane on Energy efficiency in IoT

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ABSTRACT

With the emergence of Internet of Thing (IoT), a gigantic rise has been seen in smart applications. IoT is going to be ubiquitous in the near future. Billions of sensors will be installed for the implementation of IoT applications which will generate a massive amount of data. Such massive amount of sensors, data and devices would cost huge amount of money. In addition to the installation cost, energy consumption by the IoT devices emerges as a prominent area of concern. Although IoT applications in themselves are considered to be very energy efficient, however their own energy consumption ratio is very high. Energy efficiency of IoT would make it the long term technology in the upcoming years.

1. INTRODUCTION

The Internet of Things (IoT) describes the network of physical objects— “things”—that are embedded with sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the internet. The term was coined by Kevin Ashton in 1999. He imagined the world where, internet is connected to the physical world to enhance comfort, security and control of our lives. Battery-operated devices (such as smart sensors, RFIDs, home appliances, surveillance cameras, smartphones, etc.) constitute the major part of the IoT based systems and play a crucial role in renovating our life interconnections and daily activities. Since millions of devices are connected to the internet and the devices are energy constrained, energy is an important factor in IoT.

2. OBEJCTIVES

1. To evaluate the pros and cons of using IoT-based solutions.
2. To understand the concept of Energy Efficiency and how it applies to IoT.
3. To enumerate the various aspects of IoT that impact the energy efficiency of the IoT ecosystem.
4. To enumerate and understand the various issues faced in deployment of IoT-based solutions.
5. To study the various solutions proposed to increase the energy efficiency of the various aspects of IoT-based solution to solve the various issues faced by IoT deployments.

3. ADVANTAGES AND DISADVANTAGES OF IOT:

The applications of IoT are used in various field, and it dominates multiple areas. However, there are many challenging issues in the context of the use of IoT.

Advantages:

- 1. Communication:** It is possible to make faster and efficient communication between interconnected sensor devices.
- 2. Automation:** Automation is the primary advantage of IoT. Automation task increases efficiency and quality of service, avoiding human error.
- 3. Cost-Effective:** As mentioned in the above point, the faster and efficient communication between networked sensor devices makes the daily task easy along with saving time and money.

Disadvantages:

- 1. Security and Confidentiality:** It is one of the biggest challenges in the IoT. Every device is communicating via the Internet. The confidentiality and security of the data transmitted are at high risk and has chances of being hacked by hackers.
- 2. Complexity:** The IoT is a giant network encompassing various devices under it. The single minute loophole in the hardware or software can affect the entire system resulting in catastrophic consequences. Therefore, it is the most complicated aspect of IoT.
- 3. Technological Dependability:** There is no doubt technology is dominating the human lifestyle and witnessing a significant shift in its implementation in our daily lives. Thus, this reflects a human's dependability on technology and affecting necessary human social interaction skills.

4. REVIEW OF LITERATURE

The term Energy Efficiency covers different aspects of a system in IoT and they are as follows:

- Energy correctly received per bit
- Energy reported per bit
- Network lifetime

Many research papers and studies have provided valuable classifications views and surveys of energy-saving techniques for IoT based networks. In this section, we review some of these major works exist in literature, presenting their main focuses and various categories they defined.

- Algimantas et al. proposed the energy efficient SSL protocol which ensured the maximum bandwidth and required level of security with minimum energy consumption. They explained the basic concept of the SSL and proposed adaptive SSL protocol.
- Gang Wu et al. provided an energy efficient approach in both physical layer and deployment aspects. They also proposed a basic principle of energy efficient optimization. There are various energy related algorithms such as multi-level water filling or bi-section algorithms for optimization.
- Samia Abdullah et al. proposed an architecture considering both routing algorithm and the message scheduling algorithm. Sensors were clustered into groups. It was following a cluster approach. Here, one set of sensor nodes called IoT subgroup, where every node could become the broker each time. Every time the node which is

the broker takes the responsibility of aggregating the data from its nearby nodes and sends the data to the base station.

- Rongxing Lu et al. illustrated an activity scheduling scheme for sensing coverage. In each round, a node selected a random timeout and listened to messages from neighbours before it expired. These messages contained the activity decision. A node decided to be active if its sensing range was fully covered by sensing ranges of a connected set of active neighbours.

Authors	Titles	Issues	Methods used
Algimantas et al.	An energy efficient protocol for Internet of Things	Encryption and authentication	SSL Protocol with maximum bandwidth
Gang Wu et al.	Recent Advances in Energy-Efficient Networks and their applications in 5G Systems	Spectrum efficiency	Optimization-constraints, variables and algorithms.
Samia Abdullah et al.	An Energy-efficient Message Scheduling Algorithm in Internet of Thing Environment	Service response time and energy consumption.	Message scheduling.
Rongxing Lu et al.	GRS: The Green, Reliability, and Security of Emerging Machine to Machine Commutations.	Green, Reliability and Security	Energy efficient activity scheduling scheme

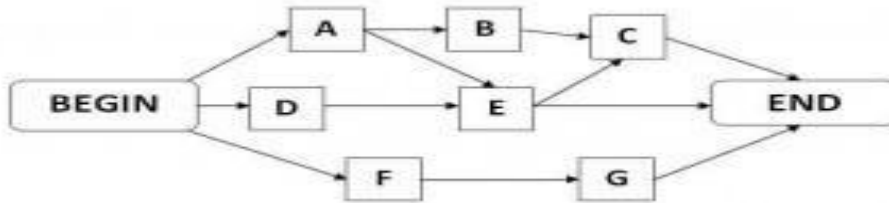
5. ISSUES OF ENERGY CONSERVATION IN IOT

- I) **Over Hearing:** High density sensor nodes lead to interferences with neighbour nodes during data conveyance. This is called over hearing. The nodes within reach have this particular problem. This leads to burn up energy resources owing to receiving and processing useless information.
- II) **Collision:** Collision occurs if nodes receive multiple data packets at the same time. Due to this the received data is useless. Transmission process has to be repeated while energy is dissipated. Collision increases latency as well. These transactions could consume quite a lot of energy.
- III) **Traffic Fluctuation:** Traffic can lead to congestion or high delays. If the network is working on its maximum capacity, congestion raises to extremely high level.

6. ENERGY CONSERVATION APPROACHES FOR IOT DEVICES:

Based on the above literature, the issues related to energy efficiency in IoT can be summed up in the following manner.

Node Activity Management: It is a project management term that refers to a precedence diagramming method which uses boxes to denote schedule activities.



There are two parts in node activity, namely sleep scheduling and on demand node activity.

Sleep scheduling is the way to set the node to a sleeping mode and determine the time to wake up. This saves energy in idle time spans. Here, certain periods are determined in which the individual node is in sleeping mode.

On-demand node activity is not scheduled, but the node is by default in an active state with a simple functionality. If a wake-up signal is broadcasted, the neighbouring nodes within the area switch to active mode. After activation, the data transmission takes place. As the start-up signal does not have to be decoded, all surrounding nodes are switched on and for the most unnecessarily.

Security Management:

Energy is an important factor to consider security measures for nodes. But, security systems are not designed for resource-restricted devices. One of the challenges is to make encryption algorithms faster and less energy consuming. The existing techniques are supported for powerful equipment. It is important to limit the energy consumption and thereby extend the battery life. Security measures have significant impact on its energy consumption to perform the encryption and decryption functions. Security requirements involve in each layer of IoT.

In the perceptual layer, authentication is necessary to prevent illegal node access. Then, to protect the confidentiality of information, data encryption is necessary. If stronger are the safety measures, it consumes more resources.

In the network layer, it is difficult to apply the existing communication security mechanisms which consume more energy. Confidentiality and integrity are important in this layer.

Routing:

Routing is the act of transferring information across network from a source to a destination. It occurs in network layer. Routing is making the decision which routes to use. Routing can be divided into flat-based routing, hierarchical-based routing, and location-based routing. All nodes are assigned equal role or functionality in flat-based routing. In hierarchical-based routing, nodes will play different roles in the network. Nodes' positions are exploited to route data in location-based routing. These protocols can also be classified into multi-path based, query-based, negotiation based, QoS-based and coherent-based routing.

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Blockchain Technology and Its Use Cases

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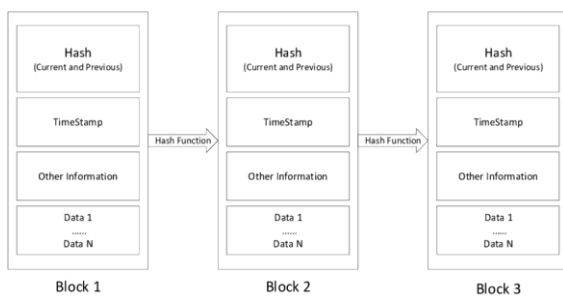
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ABSTRACT— Blockchain, is a tool to disperse facilities, safety, and verifiability, proposals a peer-to-peer method in which spread bulges collaboratively sustain contract derivation. In particular, blockchain imposes unbroken string of deal past, available via digital signature, and stated through agreement. This paper addresses what software designers and developers need to know in order to build applications built on blockchain technology, by proposing an architectural outlook of software systems that make favourable use of blockchains. It delivers leadership on evaluating the rightness of blockchain, on the roles blockchain can play in a structural design, on designing blockchain applications, and on assessing diverse architecture designs and tradeoffs.

Keywords: Blockchain, Decentralized, Ledger, Use Cases, Centralized

1. INTRODUCTION

Blockchain is defined as a data structure that holds transactional registers and while confirming security, clearness, and reorganization. A blockchain is chain of blocks that contain facts or information which are organized by no single expert. A blockchain is a distributed register that is completely exposed to any and everyone on the network.



Structure of Blockchain

2. HISTORY OF BLOCKCHAIN.

Blockchain was first presented by an individual or collection of people which is famously known as name Satoshi Nakamoto, year 2008. Nakamoto design an important method using a Hashcash-like technique to timestamp blocks without wanting them to be engaged by a trusted party and to decrease speediness with

which blocks are supplementary to the chain. The two words block and the chain were used unconnectedly in Satoshi Nakamoto's innovative paper, but were finally promoted as a one word, blockchain, by the year 2016.

3. USE CASES OF BLOCKCHAIN

Applications of Blockchain are still being exposed, a few of those will be discussed here.

3.1 BLOCKCHAIN TECHNOLOGY FOR THE EDUCATION



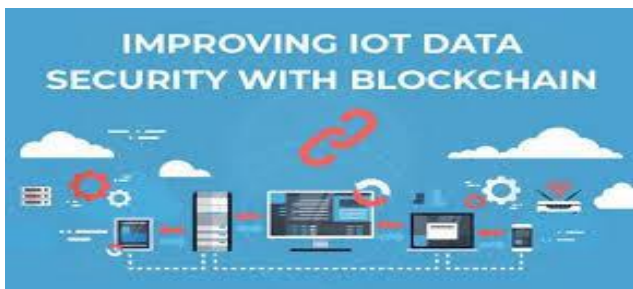
Education is fronting foremost challenges that go further than the mere optimization of the teaching-learning methods, and retort to the fluctuations produced by tools to the knowledge that, modification not only our customs but also our way of intellectual.

A variety of blockchain applications have been developed for educational purposes. These applications are classified into twelve categories: certificates management, competencies and learning results organization, assessing students' specialized ability, shielding learning things, safeguarding collaborative learning surroundings, fees and credits transfer, obtaining digital guardianship consent, competitions management, copyrights management, enhancing students' interactions in e-learning, examination review, and supporting lifelong learning.

The blockchain technology application to the education ground is in its initial phases. It specified that blockchain technology is mostly used to: concern and verify academic certificates, share students' capabilities and learning successes, and assess their specialized capacity. However, a widespread array of other applications are developing rapidly. Second, it shows

that blockchain could bring noteworthy benefits to education including providing a safe stage to share students' data, dropping cost, and augmenting faith and transparency. Third, it illustrates that the use of blockchain technology is not without tasks. Managers and officials should consider tasks related to safety, confidentiality, cost, scalability, and obtainability before accepting the technology.

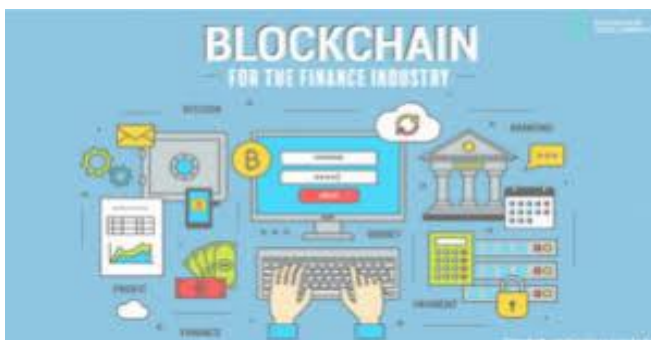
3.2 BLOCKCHAIN TECHNOLOGY FOR THE IOT



Blockchain technology is used to settle scalability reliability and privacy anxieties in IoT. Blockchain can be used to path the sensor data quantities and avoid doubling with any extra nasty data. Distributions of IoT devices can be multifaceted, and a distributed ledger is well right to deliver IoT device documentation, verification and unified safe data transmission.

Blockchain technology could possibly be the silver buckshot required by IoT industry. This technology can be cast-off in pursuing billions of allied strategies, license the behavior of communications and organization between devices, allow for significant funds for IoT industry manufacturers. This decentralized method would eradicate single facts of failure, producing a more robust system for devices to run on. The cryptographic procedures used by blockchains, would also help to make user data more private. The benefits of reorganizing IoT are numerous and notably greater to existing centralized organizations.

3.3. BLOCKCHAIN TECHNOLOGY FOR THE FINANCIAL SERVICES



Blockchain Technology allows for the complete commercial services industry to theatrically enhance commercial processes by sharing information in an well-organized, safe, and transparent manner. The present capital arcades organization is slow, costly, and often needs numerous intermediaries. The administrative nature makes execution and getting economic facilities difficult. Many new blockchain capital market creations are incoming the market and refining work flow and helping to cut above dramatically, while allowing objects to convey better, more safe and private facilities to trades and persons.

The major use of Blockchain is in finance. It all underway with bitcoin where blockchain was used to save a record of the financial business, removing the middleman. Since bitcoin, diverse Blockchain technologies have given birth to dissimilar cryptocurrencies so much so there are multiple of cryptocurrencies are being operated in the world now. Blockchain clarified in the simplest terms, adapts authorization into a digital exchange over an automated currency system. With blockchain banking, every peer on the system has a list with all communications and can authenticate deal via agreement rather than by a single institute like a bank.

3.4 BLOCKCHAIN TECHNOLOGY FOR THE GOVERNMENT



Governance consist of all the movements of governing commenced by any state. Presently governance is fronting many matters like the discretion of information, food security and voting etc. These matters can be determined with the support of blockchain structures such as reorganization, immutability and smart contract. The existing unproductive pen-and-paper way of doing effects plagues the public segment and has made the trademark of government workplaces: organization and dishonesty. Distrust in government facilities to effectively problematic solve and provide facilities to the people is a standard for public observations. Resonances like government and blockchain are a contest made in heaven. Blockchain technology can be cast-off in voting system by government. This technology delivers the

secrecy of voter. The voting record always endure unchallengeable. Government apply blockchain technology for security of food by using clever farmer arcade claim. This claim linked farmers with market, proper best about construction and Transportation is rumbled. This claim guarantees the security and excellence of food.

3.5 BLOCKCHAIN TECHNOLOGY FOR THE HEALTHCARE



Medical Industry is very much observant in Blockchain technology to endangered and path medical information collected from the patient. Medical information is tremendously imperative, and any fault or alteration can lead to punishing results. Blockchain information can be openly obtainable for use without the terror of transformation to blockchain, it has many healthcare use cases with the management of automated medical archives, drugs and pharmacological supply chain administration, biomedical study and education, distant patient monitoring, health statistics analytics, among others. Many blockchain-based healthcare claims have been established as models based on developing blockchain patterns, such as smart contracts, permissioned blockchain, off-chain storing, etc. Blockchain Technology has the latent to disturb the healthcare industry’s central operations, inaugural the door for improved business and facility distribution.

Governments and hospitals want to deliver complete care that is reasonable to manage as it is informal for the community to access. Now with blockchain technology the gears are in place to make that assignment a realism. Small start-ups and superior corporations that are initial adopters are reckoning out ways to cut overhead, bring healthier care, rationalize insurance attention courses, and consequently improve the general excellence of life and spread life expectation for the better population.

3.6. BLOCKCHAIN TECHNOLOGY FOR THE IDENTITY



The necessity for blockchain based identity management is mainly obvious in the internet age, we have confronted identity management encounters since, the beginning of Internet. Prime amongst them: safety, confidentiality, and usability. Blockchain technology may have a way to avoid this tricky by bringing a safe explanation deprived of the essential for an important, vital expert. It can be used for making an identity on the blockchain, creation it easier to accomplish for folks, giving them better switch over who has their individual data and how they admittance it.

Blockchain technology offers a resolution to many numerical individuality issues, where identity can be exclusively genuine in an indisputable, unchallengeable, and safe manner. Existing methods use difficult password-based schemes of communal confidences swapped and stowed on unconfident systems. Blockchain-based verification systems are originated on undisputable individuality confirmation using numerical signatures based on public key cryptography.

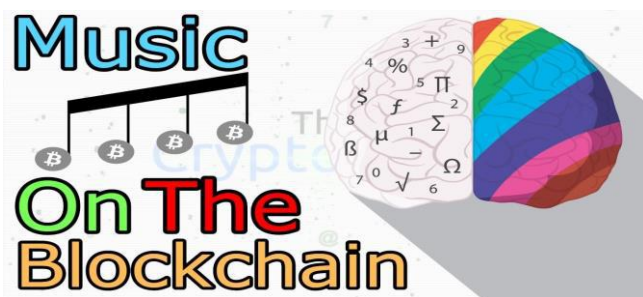
3.7. BLOCKCHAIN TECHNOLOGY FOR THE INSURANCE



Blockchain Technology allows for the whole insurance manufacturing to intensely optimize business procedures by distribution data in a well-ordered, protected, and clear manner. Using blockchain to transform insurance policies moves organizations onto smart contracts functioning automated on networks, serving to point out outdated pen and paper procedures and eradicate red tape the insurance production is disreputably pierced with. The existing insurance

infrastructure is slow, exclusive, and often needs several mediators. The administrative and expensive nature of the business types having and managing comprehensive insurance plans stimulating. Many new blockchain novelties are incoming the insurance market across all sorts, from cars to health care and refining workflow and helping to cut above intensely while permitting objects to bring better, more safe insurance plans to trades and individuals. Now insurance corporations and fintech start-ups are initial to use blockchain stages to avert deception, track annals, and mechanize procedures.

3.8. BLOCKCHAIN TECHNOLOGY FOR THE MUSIC



Blockchain technology is being planned as a device for resolving music business difficulties connected to certifying and royalty tracing. Blockchain modernize ownership privileges and help deliver fair imbursement for musicians' work while taking industry-wide transparency. Key problem parts in the music industry include clearness, clarity of possession, and royalty deliveries. Ever then online music allocation began, the industry has struggled with detection new ways to monetize digital music records that have now become non-scarce digital properties. The basic information that is needed to identify who wrote, achieved, and owns the music that you attend to, is often overlooked. This data and its correctness are energetic to safeguarding that makers and proprietors get paid for their effort.

By applying blockchain technology and smart contracts to generate a inclusive and accurate decentralized record of music rights, the likelihood for immediate and totally crystal clear transmission of artist royalties, including real-time distributions to co-writers, producers, technology associates, publishers, and even tags is now a possibility.

3.9. BLOCKCHAIN TECHNOLOGY FOR THE SUPPLY CHAIN



The goal for supply chain executives is to produce and distribute goods as efficiently as possible while stabbing to the inexpensive and safeguarding a certain level of client satisfaction. Managing the recent, often worldwide, supply chain is a sequence of concentrated procedures that need perfect instrumentation between many affecting parts and performers. Linking and making the links to allocate goods and facilities looks much more like a web than a cable in our increasingly "smaller" global world. When procedures become multi-stage and include many third-party agents dispersed across a number of countries they often become less and crystal clear. The more people involved, the more multifaceted and the more difficult it can become to fight the good fight against informational sprawl. Now with blockchain technology, we have the explanation to iron out swollen and unskilled supply chains. Blockchain-based supply chain solutions are altering the way industries do business by contribution end-to-end decentralized procedures via the distributed and digital public record.

4. CONCLUSION

Blockchain is a rising revolution for decentralized and value-based data sharing over a huge system with untrusted associates all around the world. It authorizes new types of distributed programming projects. In spite of the fact that the revolution was fundamentally comprised in computerized money in preliminary days, yet it is an auspicious innovation for diverse zones as well.

In this study, we considered the recent surge in blockchain attention as a substitute to traditional centralized structures, and considered the developing applications thereof. In specific, we assessed the key methods required for blockchain application, offering a reader to director research practitioners. We considered the extent of applications to which blockchain has been functional, broadly associating Internet of Things (IoT), Education, Healthcare, Insurance, Music, along with many other developing applications. Finally, we measured the various tasks to blockchain application for

extensive practical use, considering the safety susceptibilities to common attacks, self-centred mining, and confidentiality leakage, as well as performance limits of blockchain stages in terms of scalability and availability.

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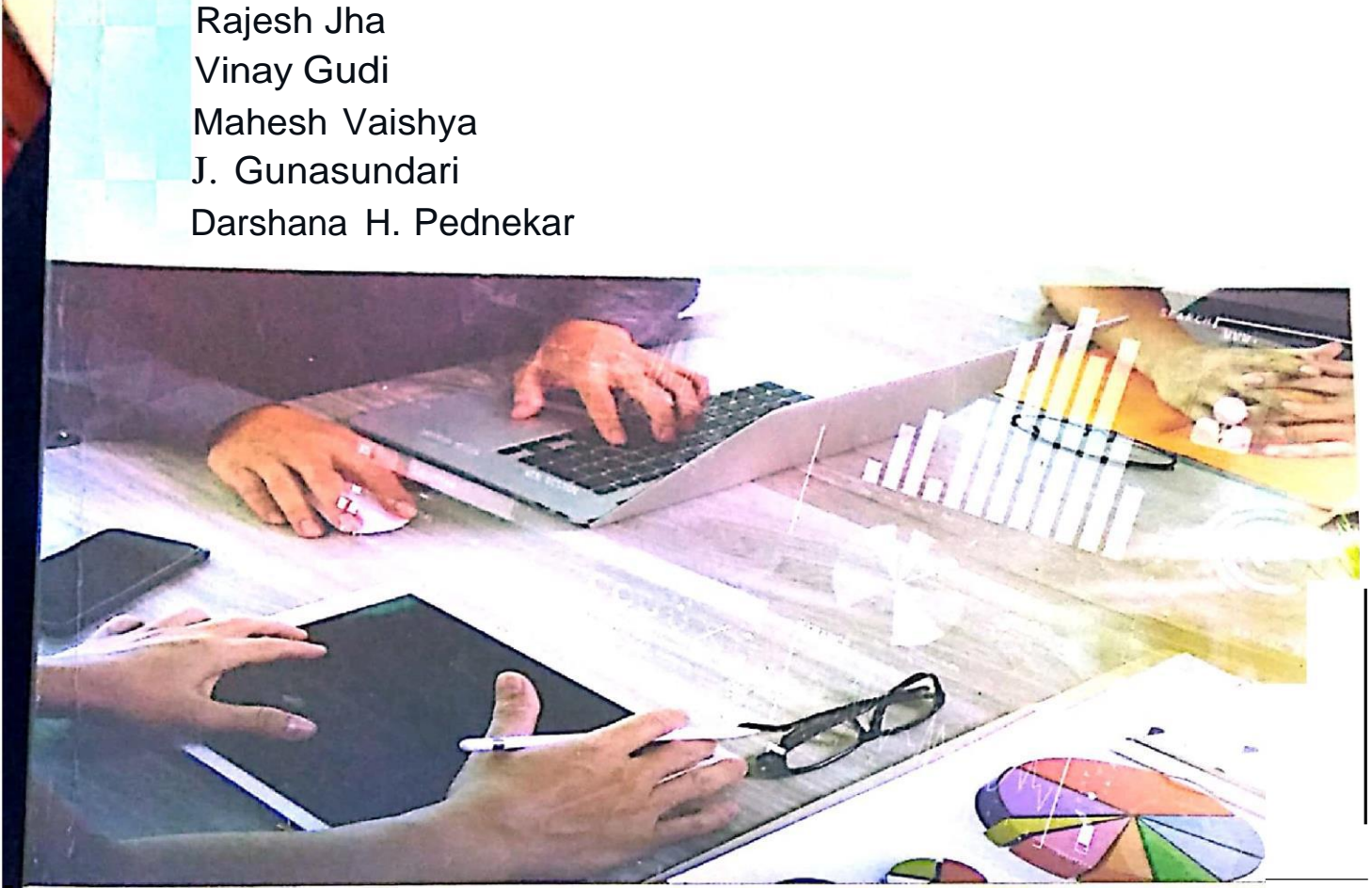
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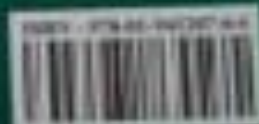
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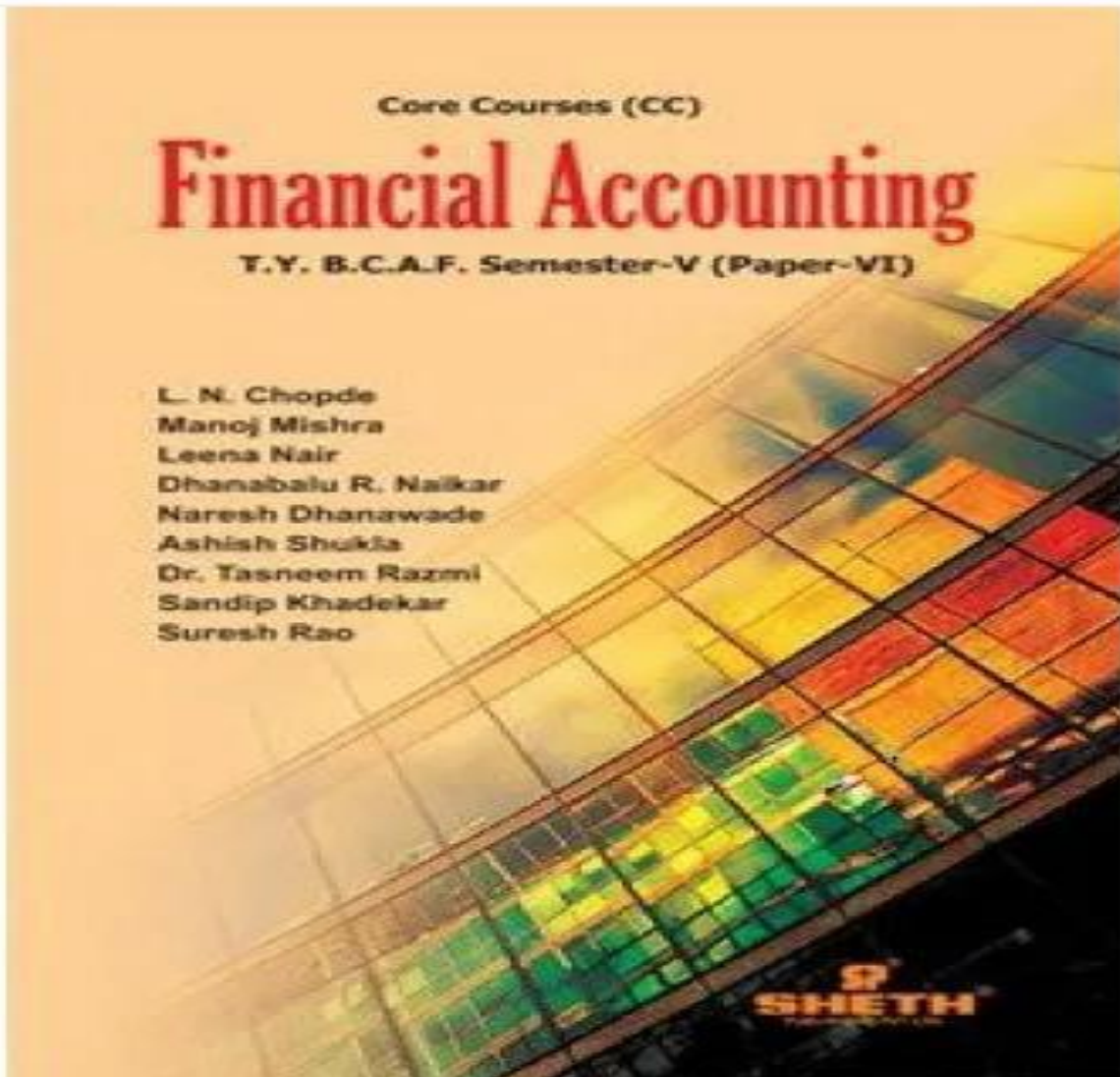
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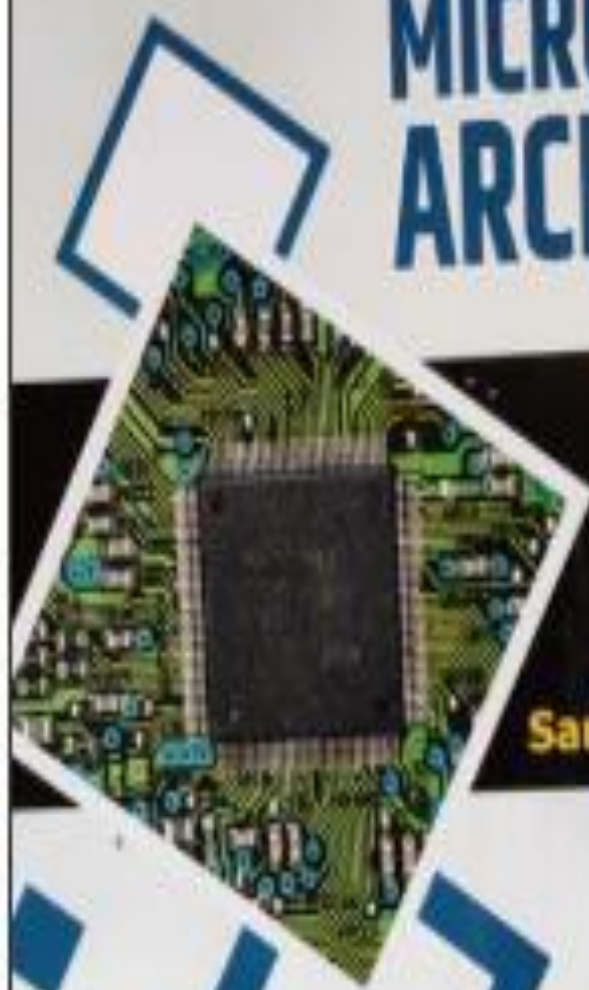
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Asst. Prof. Beena Vinod
Kapadia
VSIT, Vidyanagar Marg,
Sangam Nagar, Wadala East.

Asst. Prof. Nikhil Pawanikar
University Department of It,
University Of Mumbai

Dr. Rajendra B. Patil
VSIT, Vidyanagar Marg,
Sangam Nagar, Wadala East.

Asst. Prof. Sachin Bhosale
ICS College, Khed,
Dist. Ratnagiri.

"Golden Jubilee Year 2020-2021"

Asst. Prof. Asif Kutbuddin
Rampurawala
VSIT, Vidyanagar Marg,
Sangam Nagar, Wadala East.

I am pleased to inform that you have been appointed as course writer for the purpose of preparing study material in Self Learning Material (SLM) format in the Subject **Big Data Analytics, M.Sc. IT Part I Semester 2 course**. Individual Faculty is requested to prepare the study material as under: -

Subject	Unit No	Chapter Number	Name of the Authors
Big Data Analytics	1	1,2	Asst. Prof. BEENA VINOD KAPADIA
	2	3,4	Dr. Rajendra B. Patil
	3	5,6	Asst. Prof. ASIF KUTBUDDIN RAMPURAWALA
	4	7,8	Asst. Prof. Nikhil Pawanikar
	5	9,10	Asst. Prof. Sachin Bhosale

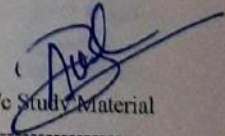
Detailed syllabus and Format of the respective units is enclosed for information. Further entire syllabus should not exceed 16 Sub- units/chapters and same will be of 3500 to 5000 words. Course writers are requested to prepare their respective units duly taking into consideration the standard guidelines of University of Mumbai with regard to Plagiarism. Guiding principles are given below for reference.

- All materials provided are the sole copyrights of University of Mumbai/IDOL.
- As Course Writer originality of the study material needs to be ensured and the material submitted will be self-certified by the course writers for Non-plagiarism.
- Citations, if taken may be given in references.
- Prof. Preeti U. Bharanuke, Assistant Professor in M.Sc. IT Part I, in IDOL, University of Mumbai, is Course and Programme Coordinator.
- The remuneration is Rs.6500/- per Unit/Chapter.

You are requested to ensure that the study material reaches on or before 18th August 2020

- While submitting Remuneration Bill for the course writing an original copy of the letter be attached.

With warm regards,



I/c Study Material

NO. IDOL/SMU/05/73/101/2020

Date: 11/08/2020.

Copy to

Assistant Registrar, (F&A) for information & necessary action.


I/c Study Material



NO. IDOL/SMU/05/79/01/2021.

Date: 15/06/2021

✓ To

Mrs. Beena Vinod Kapadia
Assistant Professor,
Vidyalankar School of Information
Technology, Wadala.

To,

Dr. Rajendra Bhaskarrao Patil
Associate Professor
Vidyalankar School of Information
Technology, Wadala.

To

Mr. Nilesh Rathod
Assistant Professor,
Mca's Rajiv Gandhi Institute of
Technology.

To

Dr. Shubhangi Liladhar Vaikole
Assistant Professor,
Datta Meghe College of Engineering,
Thane.

To,

Dr. Amruta Avinash Mhatre

Usha Mittal information Technology.

It's my great pleasure to inform that you have been appointed as course writer for preparing Self Learning Material (SLM) in the Course **Machine Learning** for **M.Sc.IT Part II, Semester III**. Individual faculty is requested to prepare the study material as under:-

UNIT	CHAPTER	NAME OF THE WRITER
1	1,2	Mrs. Beena Kapadia
2	3,4,5	Associate Prof Dr. Rajendra Bhaskarrao Patil
3	5,6	Mr. Nilesh Rathod
4	7,8,9	Dr. Shubhangi Liladhar Vaikole
5	9,10	Dr. Amruta Avinash Mhatre



Detailed syllabus and Format of the respective units is enclosed for information. Further entire syllabus should not exceed 15 sub- units/chapters and same will be of 3500 to 5000 words. Course writers are requested to prepare their respective units duly taking into consideration the standard guidelines of University of Mumbai with regard to Plagiarism. Guiding principles are given below for reference.

- All materials provided are the sole copyrights of University of Mumbai/IDOL.
- As Course Writers originality of the study material needs to be ensured and the material submitted will be self-certified by the course writers for Non-plagiarism.
- Course writers should use the internet only as a reference. Avoid direct copy & paste from Internet.
- Citations, if taken may be given in references.

H.O.D. Prof. Mandar Bhanushe, Assistant Professor, IDOL, University of Mumbai, is Programme Coordinator. Ms. Preeti Bharanuke, Assistant Professor, IDOL, University of Mumbai, is Course Coordinator.

The SLM development remuneration is:

Particulars	Remuneration
Course Writing PG	Rs.6,500/- per Unit/Chapter

You are requested to ensure that the study material reaches on or before 9th July 2021.

With warm regards,

Contact No's: Dy. Director IDOL- 9224208579/ Course Coordinator - 7588730728


15/6/2021
Director, IDOL

Copy to:

1. Coordinator, Study Material (Creation Unit) IDOL, University of Mumbai

मुंबई विद्यापीठ
दूर व मुक्त अध्ययन संस्था

डॉ. शंकर दयाल शर्मा भवन,
विद्यानगरी, सांताक्रुझ (पूर्व),
मुंबई - ४०० ०९८.



Estd. 1971

University of Mumbai
INSTITUTE OF DISTANCE
AND OPEN LEARNING

Dr. Shankar Dayal Sharma Bhavan,
Vidyanagari, Santacruz (East),
Mumbai - 400 098.

Website : mu.ac.in/distance-open-learning

e-mail : director@idol.mu.ac.in

Tel. No. - 022 2652 7082

To,

Asst. Prof. Bhavesh Shah
VSIT, Vidyanagar Marg,
Sangam Nagar, Wadala East.

Dr. Rajendra Patil
VSIT, Vidyanagar Marg,
Sangam Nagar, Wadala East.

Asst. Prof. Sachin Bhosale
ICS college, Khed,
Dist. Ratnagiri.

Asst. Prof. Shraddha Kadam,
University Department of IT,
University of Mumbai

Asst. Prof. Maria Muthukumar
Vivek College of Commerce,
Goregaon

I am pleased to inform that you have been appointed as course writer for the purpose of preparing study material in Self Learning Material (SLM) format in the Subject **Soft Computing Techniques, M.Sc. IT Part I Semester 1 course**. Individual Faculty is requested to prepare the study material as under: -

Subject	Unit No	Chapter Number	Name of the Authors
Soft Computing Techniques	1	1,2	Asst. Prof. Bhavesh Devchand Shah
	2	3,4	Asst. Prof. Maria Muthukumar
	3	5,6	Prof. Sachin Bhosale
	4	7,8	Asst. Prof. Shraddha Kadam
	5	9,10	Dr. Rajendra B. Patil

Detailed syllabus and Format of the respective units is enclosed for information. Further entire syllabus should not exceed 16 Sub- units/chapters and same will be of 3500 to 5000 words. Course writers are requested to prepare their respective units duly taking into consideration the standard guidelines of University of Mumbai with regard to Plagiarism. Guiding principles are given below for reference.

- All materials provided are the sole copyrights of University of Mumbai/IDOL.
- As Course Writer originality of the study material needs to be ensured and the material submitted will be self-certified by the course writers for Non-plagiarism.
- Citations, if taken may be given in references.
- Prof. Preeti U. Bharanuke, Assistant Professor in M.Sc. IT Part I, in IDOL, University of Mumbai, is Course and Programme Coordinator.
- The remuneration is Rs.6500/- per Unit/Chapter.

You are requested to ensure that the study material reaches on or before 18th August 2020

- While submitting Remuneration Bill for the course writing an original copy of the letter be attached.

With warm regards,

I/c Study Material

NO. IDOL/SMU/05/ 73/1 of 2020

Date: 11/08/2020.

Copy to

Assistant Registrar, (F&A) for information & necessary action.

I/c Study Material

मुंबई विद्यापीठ
दूर व मुक्त अध्ययन संस्था

डॉ. शंकर दयाल शर्मा भवन,
विद्यानगरी, सांताक्रुझ (पूर्व),
मुंबई - ४०० ०९८.

Website : mu.ac.in/distance-open-learning



Estd. 1971

e-mail : director@idol.mu.ac.in

University of Mumbai
INSTITUTE OF DISTANCE
AND OPEN LEARNING
Dr. Shankar Dayal Sharma Bhavan,
Vidyanagari, Santacruz (East),
Mumbai - 400 098.

Tel. No. - 022 2652 7082

"सुवर्ण महोत्सवी वर्ष २०२०-२०२१"

"Golden Jubilee Year 2020-2021"

Mr. Kanishka Khatri

Asst. Prof. Jayesh Shinde
University Department of IT,
University of Mumbai

Asst. Prof. Ahtesham Shaikh
Akbarbhoj Peerbhoj College,
Grant Road, Mumbai

Asst. Prof. Bhanuprasad
Vishwakarma

Asst. Prof. Bhavesh Shah
VSIT, Vidyanagar Marg,
Sangam Nagar, Wadala East.

I am pleased to inform that you have been appointed as course writer for the purpose of preparing study material in Self Learning Material (SLM) format in the Subject **Modern Networking, M.Sc. IT Part I Semester 2 course**. Individual Faculty is requested to prepare the study material as under: -

Subject	Unit No	Chapter Number	Name of the Authors
Modern Networking	1	1,2	Mr. Kanishka Khatri
	2	3,4	Asst. Prof. Jayesh Shinde
	3	5,6	Asst. Prof. Ahtesham Shaikh
	4	7,8	Asst. Prof. Bhanuprasad Vishwakarma
	5	9,10	Asst. Prof. Bhavesh Shah

Detailed syllabus and Format of the respective units is enclosed for information. Further entire syllabus should not exceed 16 Sub- units/chapters and same will be of 3500 to 5000 words. Course writers are requested to prepare their respective units duly taking into consideration the standard guidelines of University of Mumbai with regard to Plagiarism. Guiding principles are given below for reference.

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- As Course Writer originality of the study material needs to be ensured and the material submitted will be self-certified by the course writers for Non-plagiarism.
- Citations, if taken may be given in references.
- Prof. Preeti U. Bharanuke, Assistant Professor in M.Sc. IT Part I, in IDOL, University of Mumbai, is Course and Programme Coordinator.
- The remuneration is Rs.6500/- per Unit/Chapter.

You are requested to ensure that the study material reaches on or before 18th August 2020

- While submitting Remuneration Bill for the course writing an original copy of the letter be attached.

With warm regards,

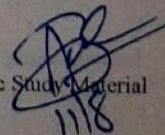

I/c Study Material

NO. IDOL/SMU/05/7313 of 2020

Date: 11/08/2020.

Copy to

Assistant Registrar, (F&A) for information & necessary action.


I/c Study Material
11/8



31.

UNIVERSITY OF MUMBAI
INSTITUTE OF DISTANCE AND OPEN LEARNING
VIDYANAGARI

No. IDOL/SMU/05 335 of 2021.
Date : 15/04/2021.

To,
Prof. Rajkumar Yadav
Rathi Nagar ward no. 2,
Dhamangaon Rly. Dist. Amravati,
Maharashtra – 444 709.

Prof. Amit T. Kukreja
Somaiya Ayurvihar Complex,
Eastern Express Highway Near,
Everard Nagar, Sion (E), Mumbai,
Maharashtra – 400 022.

✓ Prof. Geeta Sahu
Vidyalankar Educational Campus,
Vidyalankar College Rd, Wadala (E),
Deen Bandhu Nagar, Antop Hill,
Hill, Mumbai – 400 037.

I am pleased to inform that you have been appointed as course writer for the purpose to prepare the study material in Self Learning Material (SLM) format, in the Network Security for T.Y.BSc. I.T. Semester V is segregated in Units and individual faculty member is requested to prepare the study material as under:-

Units	Name of the course writers
1&2	Prof. Rajkumar Yadav
3&4	Prof. Amit T. Kukreja
5&6	Prof. Geeta Sahu

Detailed syllabus and format of the respective units are enclosed for information. Further, entire syllabus should not exceed 16 sub- units/chapters and same will be of 3500 to 5000 words. Course writers are requested to prepare their respective units duly taking into consideration the standard guidelines of University of Mumbai with regard to Plagiarism guiding principles are given below for reference.

- All materials provided are the sole copyrights of University of Mumbai/IDOL.
- As course writers originality of the study material needs to be ensured and the material submitted will be self-certified by the course writers for Non-plagiarism.
- Citations, if taken may be given in references.
- Course Writers Should use the internet only as a reference. Avoid direct copy & paste from internet.
- The faculty head of Science & Technology is Mr. Mandar Bhanushe Assistant Professor (M.Sc. Mathematics) in IDOL, University of Mumbai.

मुंबई विद्यापीठ
दूर व मुक्त अध्ययन संस्था

डॉ. शंकर दयाल शर्मा भवन,
विद्यानगरी, सांताक्रुझ (पूर्व),
मुंबई - ४०० ०९८.

Website : mu.ac.in/distance-open-learning

To,
Dr. Hiren Dand

Mulund College of Commerce,
Mulund(W), Mumbai



Estd. 1971

e-mail : directors@idol.mu.ac.in
Asst. Prof. Nikhil Pawanikar
University Department of IT,
University of Mumbai

University of Mumbai
INSTITUTE OF DISTANCE
AND OPEN LEARNING
Dr. Shankar Dayal Sharma Bhavan,
Vidyanagari, Santacruz (East),
Mumbai - 400 098.

Tel. No. - 022 2652 7082

Asst. Prof. Sanjeela Rakesh Sagar
VSIT, Vidyanagar Marg,
Sangam Nagar, Wadala East.

Asst. Prof. Mithilesh Chauhan
S M Shetty College,
Hiranandani Garden,
Powai, Mumbai

Asst. Prof. Sohrabh Vakaharia

I am pleased to inform that you have been appointed as course writer for the purpose of preparing study material in Self Learning Material (SLM) format in the Subject **Data Science, M.Sc. IT Part I Semester 1 course**. Individual Faculty is requested to prepare the study material as under: -

Subject	Unit No	Chapter Number	Name of the Authors
Data Sciencece	1	1,2	Dr. Hiren Dand
	2	3,4	Asst. Prof. Nikhil Pawanikar
	3	5,6	Asst. Prof. Sanjeela Rakesh Sagar
	4	7,8	Asst. Prof. Mithilesh Chauhan
	5	9,10	Asst. Prof. Sohrabh Vakaharia

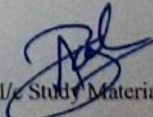
Detailed syllabus and Format of the respective units is enclosed for information. Further entire syllabus should not exceed 16 Sub- units/chapters and same will be of 3500 to 5000 words. Course writers are requested to prepare their respective units duly taking into consideration the standard guidelines of University of Mumbai with regard to Plagiarism. Guiding principles are given below for reference.

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- As Course Writer originality of the study material needs to be ensured and the material submitted will be self-certified by the course writers for Non-plagiarism.
- Citations, if taken may be given in references.
- Prof. Preeti U. Bharanuke, Assistant Professor in M.Sc. IT Part I, in IDOL, University of Mumbai, is Course and Programme Coordinator.
- The remuneration is Rs.6500/- per Unit/Chapter.

You are requested to ensure that the study material reaches on or before 18th August 2020

- While submitting Remuneration Bill for the course writing an original copy of the letter be attached.

With warm regards,

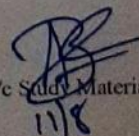

I/c Study Material

NO. IDOL/SMU/05/731 of 2020

Date: 11/08/2020.

Copy to

Assistant Registrar, (F&A) for information & necessary action.


I/c Study Material
11/8

मुंबई विद्यापीठ
दूर व मुक्त अध्ययन संस्था



University of Mumbai
INSTITUTE OF DISTANCE
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“श्रेष्ठत्व-सक्षम विद्यापीठ”

“University with Potential for Excellence”

NO. IDOL/SMU/05/796 of 2021.

Date: 16/06/ 2021

To
Mr. Sameer Baban Kamble
Assistant Professor,
Patkar-Varde College,

To,
Mr. Harsh Namdev Bhor
Assistant Professor,
K.J Somaiya College, Sion.

To
Dr. Mahesh Sudhakar Naik
Assistant Professor,
NMIMS College.

To
Mrs. Sanjeela Sagar
Assistant Professor,
V.S.I.T College,
Wadala.

To,
Mr. Vaibhav Prakash Vasani,
Asst. Professor,
K.J.Somaiya College of Engineering

It's my great pleasure to inform that you have been appointed as course writer for preparing Self Learning Material (SLM) in the Course **Deep Learning** for **M.Sc.IT Part II, Semester IV**. Individual faculty is requested to prepare the study material as under:-

	UNIT NO	CHAPTER NO	NAME OF THE WRITER
Deep learning	1	1,2	Mr. Sameer Baban Kamble
	2	3	Mr. Harsh Namdev Bhor
	3	4	Prof. Sanjeela Sagar
	4	5	Dr. Mahesh Sudhakar Naik
	5	6	Mr. Vaibhav Prakash Vasani



Estd. 1971

“श्रेष्ठत्व-सक्षम विद्यापीठ”

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Detailed syllabus and Format of the respective units is enclosed for information. Further entire syllabus should not exceed 15 sub- units/chapters and same will be of 3500 to 5000 words. Course writers are requested to prepare their respective units duly taking into consideration the standard guidelines of University of Mumbai with regard to Plagiarism. Guiding principles are given below for reference.

No of chapters/Unit should not exceed more than 15.

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- Course writers should use the internet only as a reference. Avoid direct copy & paste from Internet.
- Citations, if taken may be given in references.

Prof. Mandar Bhanushe, Assistant Professor, IDOL, University of Mumbai, is Programme Coordinator. Ms. Preeti Bharanuke, Assistant Professor, IDOL, University of Mumbai, is Course Coordinator.

The SLM development remuneration is:

Particulars	Remuneration
Course Writing PG	Rs.6,500/- per Unit/Chapter

You are requested to ensure that the study material reaches on or before 30th July 2021.

With warm regards,

Contact No's: Dy. Director IDOL- 9224208579/ Course Coordinator - 7588730728

Director, IDOL

Copy to:

1. Coordinator, Study Material (Creation Unit) IDOL, University of Mumbai
2. Programme /Course Coordinator, IDOL, University of Mumbai
3. Assistant Registrar, F&A, IDOL, University of Mumbai

डॉ. शंकर दयाल शर्मा भवन, विद्यानगरी, सांतारुझ (पूर्व), मुंबई - ४०० ०९८.

Dr. Shankar Dayal Sharma Bhavan, Vidyanagari, Santacruz (East), Mumbai - 400 098.



UNIVERSITY OF MUMBAI
INSTITUTE OF DISTANCE AND OPEN LEARNING
VIDYANAGARI

No. IDOL/SMU/05 296 of 2021.

Date : 12/04/2021.

To,

Prof. Aarti Sahitya

Flat No. 402 Melbourne b12,

Oppyogidhamautostand,

Yegidham Kalyan (W) – 421301.

Prof. Mithila Chavan

Vidyalankar School of I.T.

Vidyalankar Marg,

Wadala (E)- 400037.

Prof. Rajendra Patole

Vidyalankar School of I.T.

Vidyalankar Marg,

Wadala (E)- 400037.

Prof. Jyotsna Anthal

702/ Tower 4, Spring Grove Towers,

Lokhandwal, Kandivali (E)- 400101.

Prof. Prachi A. Surve

Plot no. 9/b room no. 24/25,

Vighnharatachs, Mhada Colony,

Mulund (E)- 400081.

I am pleased to inform that you have been appointed as course writer for the purpose to prepare the study material in Self Learning Material (SLM) format, in the Software Engineering for S.Y.B.Sc.I.T. Semester IV is segregated in Units and individual faculty member is requested to prepare the study material as under:-

Chapters	Name of the course writers
03	Prof. Aarti Sahitya
03	Prof. Mithila Chavan
03	Prof. Rajendra Patole
03	Prof. Jyotsna Anthal
03	Prof. Prachi A. Surve
03	Prof. Rajendra Patole

Detailed syllabus and format of the respective units are enclosed for information. Further, entire syllabus should not exceed 16 sub- units/chapters and same will be of 3500 to 5000 words. Course writers are requested to prepare their respective units duly taking into consideration the standard guidelines of University of Mumbai with regard to Plagiarism guiding principles are given below for reference.

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- As course writers originality of the study material needs to be ensured and the material submitted will be self-certified by the course writers for Non-plagiarism.
- Citations, if taken may be given in references.
- Course Writers Should use the internet only as a reference. Avoid direct copy & paste from internet.
- The faculty head of Science & Technology is Mr. Mandar Bhanushe Assistant Professor (M.Sc. Mathematics) in IDOL, University of Mumbai.

A NATIONAL LEVEL STUDENT RESEARCH PAPER COMPETITION

VIJANAN 2021

T H E M E

“RECENT TRENDS IN MANAGEMENT AND IT”

EDITED &
PUBLISHED BY
DR. ROHINI KELKAR

VIDYALANKAR SCHOOL OF
INFORMATION TECHNOLOGY

FIRST EDITION
ISBN: 978-93-5457-359-0

**A NATIONAL LEVEL STUDENT RESEARCH
PAPER CONFERENCE**

“VIJANAN 2021”

Theme

“RECENT TRENDS IN MANAGEMENT & IT”

3rd April 2021

Editor- Dr. Rohini Kelkar

Published By: Dr. Rohini Kelkar

**VIDYALANKAR SCHOOL OF INFORMATION TECHNOLOGY,
MUMBAI**

Edition I

ISBN: 978-93-5457-359-0

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VSearch

V-SEARCH is an Inter Collegiate research paper presentation competition held by Vidyalankar School of Information Technology for students aiming to inculcate the aptitude for research among young minds. The conference is conducted in two parallel session for IT and Management, respectively. The theme of the conference was "Recent Trends in Management and IT" which includes all areas of IT, Management and Commerce. A list of subthemes for the seminar is provided to the students as they are expected to submit a research paper which further goes for presentation.

Chairperson – Dr. Rohini Kelkar(Principal, VSIT)

Organizing Committee

- Mr. Asif Rampurawala (Vice-Principal)
- Dr. Lakshmi Kavitha
- Dr. Amita Jain
- Ms. Geeta Sahu
- Mr. Vijay Gawade (Vice-Principal)
- Dr. Rajendra Patil
- Dr. Swagatika Nanda
- Ms. Mithila Chavan

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- Mr. Aliasgar Rajgara

Resource Person

- | | |
|--|--|
| Information Technology Track <ul style="list-style-type: none">• Mr.Mahendra Kane, Sr. Manager - Business Development at Siemens Ltd. | Commerce and Management Track <ul style="list-style-type: none">• Dr. Y. L. Choudary
Asst. Professor & Research Supervisor
at Commerce Government Arts
College, Nandanam, Chennai |
|--|--|

Winners

Information Track

1. Bhupesh Dubey, Abhishek Katta were awarded the first prize for the paper **Automatic Vehicle Crash Detection and Rescue System-An Initiative towards Road Safety.**
2. Gauresh Mhatre and Reetik Jena were awarded the second prize for the paper **Gamification with retro gaming.**
3. Shreekant Kambli and Rahul Poojari Jena were awarded the third prize for the paper **Steganalysis Using Machine Learning.**

Commerce and Management Track

1. Nayan Bhagat was awarded the first prize for his paper **Understanding the need and Impact of Menstrual Leave.**
2. Firdous Satha was awarded the second prize for his paper **Understanding Adoption Factors of OTT Video Services among Generation Y & Generation Z Consumers in Mumbai**
3. Tanushree Mestri and Yogetha Madhukunta was awarded the third prize for the paper **SOCIAL MEDIA : A BOON FOR MARKETING**

Track 1
Information Technology

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ONLINE COUNSELLING USING ARTIFICIAL INTELLIGENCE

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ABSTRACT

Many challenges affect youth work experience such as technological advancement, Diversity in the economy, global trade, and the competitive education market globally. The 21st century is rapidly becoming online with all latest technology, like artificial intelligence. Online counselling, becoming more and more pervasive. The main motive of online counselling is helping to people, students who confused about their study what to do and facing life issue problem. Now days people face a mental health issue. The counselling is required everywhere by the expert in order to get proper suggestions and advise from the expert. The counselling for career, counseling for job skills, counseling for anxiety, depression etc. In this paper, we have considered a number of Artificial Intelligence (AI) programs Provided in the field of project management. This paper begins with the importance of job guidance and follow-up counselling by considering the various technologies in Providing a solution. In addition, much work is being done on this field has been scrutinized. Chances of getting too personal and emotionally attached to the counsellor are high. Sometime counsellor has limited knowledge to tackle the situation and give a solution to the problem. Lack of information, lack of visual and verbal clues. Overcome all above these problems online counselling is easily accessible to all. Improved communication and interpersonal skills. Increase the confidence and decision-making skill. Eventually, open challenges and problems where the result to research was done. To address the work-related issues which are currently facing by youth, various Solutions are being proposed by the researchers in the past according to various techniques such as: Machine learning, genetic algorithms, advanced mathematical models, incomprehensible concept, and Neural Networks.

KEYWORDS : *Artificial intelligence, expert system, career counselling, career guidance*

INTRODUCTION

One of the great features of online counselling is that it can be provided worldwide; online counselling has no local boundaries. Certainly, this presents exciting possibilities, but several practical considerations must be addressed. Language is a significant barrier to overcome, but multilingual counseling psychologists may find many new markets for their services, and as the

authors state, it may allow “counseling psychologists to reach out to populations that may otherwise avoid or not have access to mental health services” Developing a greater understanding of various online- counseling services to include demonstrating their effectiveness, understanding their limitations, and assessing their equivalence with in-person psychotherapy. Coordinating and engaging in active advocacy efforts to resolve jurisdictional issues so that all licensed psychologists can provide treatment services online to those in need.

The advent of the Internet has led to the continued growth of online counseling since the 1970s. Despite the growing popularity of online counseling worldwide right now, even if the benefits of online counseling outweigh those of offline counseling. Contrary to what has happened in the past, this study seeks to compare between online, offline counseling, and integrated in therapeutic outcomes, to shed light on the importance of the great advancement of online counseling in adolescent situations. this study adopted a mixed approach in conducting comparative analysis of service outcomes in terms of health quality and sense of well-being. Quantitative results showed that combined counseling is the best of all three counseling methods, whereas online counseling was better than offline counseling and online counseling focuses on personal issues. extremely psychological, described in quality analysis, online and offline counseling have their distinctive advantages. offline counseling helped provide more significant support in terms of real-time company and tangible resources. The idea is that online counseling has a potential value to be extensively developed. it can be like other offline counseling or integrated with offline counseling to maximize service results.

OBJECTIVES

- Online Counseling is the provision of online mental health and career counseling services.
- These Services are usually provided, real-time chat, and video conferencing. Online psychological or personal counseling is very much focused on the normal growth of people.
- This approach seeks to help patients cope with daily problems, such as work, and lifestyle changes.
- The aim is to empower the client by finding areas they can manage and manage effectively.
- The main objective of this counseling project is to help student with their desire career guidance and to help people who are dealing with their mental health like depression and anxiety or to help people who are stress with their jobs and daily work.

SCOPE

Online counseling, is becoming more and more popular. A great motivation to working for online counseling is to help people, students who are confused about their learning what to do and deal with a health problem. Nowadays people face a mental health problem. Advice is needed everywhere by an expert to get the right recommendations and professional advice. Career counseling, job skills counseling, anxiety counseling, depression etc. Psychological Comfort: Online therapy can help eliminate social stigma associated with receiving

psychological counseling or other treatment. Flexibility: Clients have access to multiple professionals and can choose professionals who can work with their schedules.

METHODOLOGY

Developing a greater understanding of various online-counseling services to include demonstrating their effectiveness, understanding their limitations, and assessing their equivalence with in-person psychotherapy Coordinating and engaging in active advocacy efforts to resolve jurisdictional issues so that all licensed psychologists can provide treatment services online to those in need. Creating ethical principles and standards directly relevant to the unique aspects of online counseling; Developing and obtaining funding for initiatives that create access to needed technology for our neediest citizens, that educate them about these services, and that assess their use and effectiveness; and Creating training programs for graduate students and practicing psychologists alike to provide them with the knowledge and skills needed to be competent and effective. Automation the process of career guidance and counselling with the help of computer- assisted solutions is very powerful and it will hold greater importance for the people who are confused with their career preference. Besides, simplifying the task and saving effort and time, automated solution has great potential for integration and access, a larger diverse group of people. In this research paper, consideration of a number of Artificial Intelligence (AI) programs provided in the field of project management or career guidance and counselling has been done. This paper begins with the highlight of job guidance and follow-up counselling by considering the various technologies in providing a solution.

- Text/audio/video messaging and chats – This function allows users to choose the most comfortable way of communication with the counsellor, as some might feel nervous because of phone calls.
- Sharing option – This function is important when users feel the want to share progress with their counsellors. It works similarly ways: while patients feel constant support, counsellors control patients` state remotely and, therefore, timely address emergencies. Besides, some users want family support, and sharing features helps in the case.

CONCLUSION

Online counselling is easy to access, reduced cost, reduced the time, increased progress, and flexibility. Online counselling is beneficial for all people or student who cannot afford it. Online counseling is cheaper and online counselling is proven to be as effective Were student speak with a counsellor or chat with a counsellor anytime its 24*7 available. Anywhere we can access.

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A STUDY ON CLOUD COMPUTING

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ABSTRACT

Innovations are necessary to ride the inevitable waves of change. Most companies try to reduce their computer costs through virtualization. This demand to reduce the cost of computing led to the invention of cloud computing. One of the primary services provided by cloud computing is data storage. The cloud service provider hosts the data owner's data on their server and the user can access their data from these servers. Because data, owners, and servers are different identities, the paradigm of data storage presents many security challenges. An independent algorithm is needed to ensure that data is properly hosted on the cloud storage server. Internet-based cloud computing has the most powerful framework of computation. It calculates the set of integrated and networked hardware, software, and web infrastructure. In this paper, we will discuss the different techniques used for secure data storage in the cloud.

INTRODUCTION

Cloud computing is a general term used to describe a new type of network-based computing that takes place on the Internet. Cloud computing is the provision of computer services such as storage, networking, databases, analysis, software, and intelligence. The word 'cloud' in cloud computing is a collection of networks, just like real clouds of water molecules. In other words, we can say that the cloud is somewhere far away. The cloud can provide services on the network, that is, on public networks or private networks, i.e. WAN, LAN, or VPN. Applications such as email, web conferencing, and customer relationship management (CRM) all run on the cloud.

Cloud computing refers to manipulating, configuring, and accessing applications online. It provides online data storage, infrastructure, and application. Cloud computing is a combination of software and hardware-based computer resources provided as a network service. Here, you only have to pay for the cloud services you use, which will help you reduce your operating costs, run the infrastructure more efficiently, and measure when your business needs change.

HISTORY

In the 50s mainframe computers were huge, occupying entire rooms. Because of the cost of purchasing and maintaining mainframes, companies may not be able to purchase one per user. The solution is "time-sharing", in which multiple users share access to data and CPU time. The term "time-sharing" was a prototype of cloud computing in the 1950s. J.C.R. Licklider created the ARPANET (Advanced Research Projects Agency Network) in 1969, which became the basis of the Internet. IBM released an operating system called VM, which allowed administrators to

have multiple virtual machines, or "virtual machines" (VMs) single body nodes. The VM operating system took the "time-sharing" model of the 50s to the next level. Virtualization for PC-based computers began with enthusiasm, and as the Internet became more accessible, the next logical step was to take virtualization online in the 1990s. The word "cloud computing" was coined by Ramnath Chellappa, a professor at the University of Texas, in a talk on a "new computing paradigm"! However, the term may have been used in Compaq a year ago. See 1997 for more information here.

TYPES OF CLOUD COMPUTING

1. **Private cloud:** A private cloud is implemented using the exclusive data center infrastructure of hardware and software, which is used privately by a company. The data center may be on campus or campus. It is not shared with any other company. When a data center is shared, it is called a virtual private cloud. Dedicated to the Cloud Computing Stack Company in a private cloud. Although the data center is shared, the cloud is not a computing stack, it is a virtual private cloud. When the cloud shares both the computing stack and the data center, it becomes the public cloud. A private cloud can participate in a hybrid cloud.
2. **Public cloud:** A public cloud is implemented using the shared data center infrastructure of hardware and software shared by multiple companies. The data center is usually off-campus. The cloud computing stock in the public cloud is shared with other companies. However, the data is kept separate for each company. Although the data center is shared, the cloud is not a computing stack, it is a virtual private cloud. When no cloud computing stack or data center is shared, it is called a private cloud. A public cloud can participate in a hybrid cloud.
3. **Hybrid cloud:** A hybrid cloud is any combination of clouds. It can be a private cloud and one or more public clouds. Similarly, it can be a virtual private cloud and one or more public clouds. But it is so much more than many clouds. There must be resources shared between the clouds. An example of this is the cloud explosion.
4. **Social cloud:** A social cloud can be a private cloud, a virtual private cloud, a public cloud, or a hybrid cloud. A social cloud is specifically designed to meet the limited needs of a community. Such communities include individuals or organizations that share interests. This includes industry groups, research groups, standing groups, and more. So, a social cloud is not a type of cloud because it is a way to see how clouds can be used. The data center that supports the socialcloud may be one of the member organizations or it may be in one place from all the member organizations.
5. **Personal cloud:** A private cloud is implemented using the data center infrastructure of hardware and software used by a company. The data center may be on campus or campus. It is not shared with another company. If the data center is shared, it is a virtual private cloud. Dedicated to the Cloud Computing Stack Company in the personal cloud. Even if the data center is shared, if there is no

cloud computing stack, it is a virtual private cloud. If the data center and cloud computing stack are shared, it is a public cloud. An individual cloud can participate in a hybrid cloud.

TYPES OF CLOUD SERVICES

- 1. Infrastructure as a Service (IaaS):** The most basic type of cloud computing services. With IaaS, you rent IT infrastructure-servers and virtual machines (VMs), storage, networks, and operating systems from the cloud provider on a pay-as-you-go basis. It is the provision of technical infrastructure as a scalable service.
- 2. Platform as a Service (PaaS):** The operating system as a service refers to cloud computing services, which provide the environment needed for software applications to develop, test, deliver and manage. PaaS is designed to make it easier for developers to quickly build web or mobile applications without having to worry about setting up or managing the basic infrastructure of servers, storage, network, and database development. Product as a service provider provides a pre-defined combination of operating system and application server to gain application management capabilities.
- 3. Software as a Service (SaaS):** Software as a service is a method of providing software applications on the Internet, on-demand, and generally on a subscription basis. With SaaS, cloud providers host and manage software usage and basic infrastructure, as well as any maintenance such as software upgrades and security patches. Users connect to the application via the Internet, usually with a web browser on their phone, tablet, or computer. SaaS users do not need to buy the software or Hardware, maintenance, and upgrade.

CHARACTERISTICS

- 1. Resource Pooling:** Sharing resources among several clients is known as resource pooling, Hence by applying this, we can provide people with multiple sets of services according to their requirements. Various strategies can be applied using multi-client techniques such as data storage services, processing services and bandwidth services.
- 2. On demand, Self-Service:** A very crucial and essential feature of Cloud Computing. This is also a fundamental requirement while providing a cloud facility. A client can easily monitor server's up and down time, abilities, tasks and storage facility allocated to them. Hence a client can control the computing abilities according to their liking.
- 3. Easy to Maintain:** A good feature of cloud computing. By having a well-maintained server, we can have great up & down times while being close to zero sometimes. Cloud computing systems are needed to be updated frequently to optimize their utility and bring them to their maximum potential. The more updates the better communication between devices can be created.
- 4. Scalability and Elastic:** Rapid scalability and elasticity is one of the key features of cloud computing. This characteristic enables us to create cost-effective workloads that requires a

great number of servers for just a brief of time. Multiple clients may have this kind of workload performed for a cost effective and a quick scalable cloud computing facility.

5. **Economical:** This characteristic is important in terms of economy spent on the facilities provided in IT in a given company. You are required to pay the amount of storage you've used in a cloud server.

APPLICATIONS OF CLOUD COMPUTING

1. **Art Applications:** Cloud computing is a great platform for creative design and also easily create attractive cards or booklets and images. A famous cloud-based application is, Vistaprint, It is a very strong application for making wedding invitations cards, Booklets, Postcards and business cards. Also another famous platform is the adobe creative cloud.
2. **Business Applications:** Almost all organizations require a cloud business application to grow their business. It also ensures that business applications are available to all users with low server down times and any time of the day. Few examples being Chatter, PayPal, Slack, etc. Chatter is a application developed to know information about an organization in real time. While PayPal being a tool that offers a simple online payment facility, it offers money transfers or payments from credit, debit or master cards as well as from other PayPal users.
3. **Data Storage & Backup Applications:** Cloud computing is excellent in terms of storing information and access this from the cloud through an internet connection. As a cloud facility also provides security they need to also provide with back-up and data recovery application in case of accidental loss or retrieving lost information. Google G Suite is one of the best cloud and backup application.
4. **Education and Entertainment Applications:** Education with cloud has become very popular recently and due to Corona virus pandemic, in these past and current years cloud-based Application learning has become very popular, cloud based learning provides distance learning since we only need portals and good internet for students to access information while sitting in their homes. Entertainment is an important part of any internet based platform, hence cloud computing provides us with great applications such as online gaming, video conferencing apps, etc. Videoconferencing and teams help us communicate to any one in an instant.

FUTURE ROLES OF CLOUD COMPUTING

Businesses these days have revolutionary approaches to develop and achieve their commercial enterprise goals. With the assist of cloud computing, this commercial enterprise will preserve on developing withinside the destiny. Cloud computing is extraordinarily cost-powerful and corporations can use it for his or her success. The destiny of cloud computing is shiny and could offer advantages to each the consumer and the customer.

CONCLUSION

In conclusion, cloud computing is these days new technological improvement that has the ability to have a amazing effect at the world. It has many blessings that it presents to its customers and business. People are very skeptical approximately whether their information is

stable and private. There are not any requirements or rules through cloud computing. But once, there are requirements and law international, cloud computing will revolutionize the future.

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360 DEGREE VIRTUAL TOUR

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ABSTRACT

Mobile apps have now become a necessity nowadays. They are user-friendly, handy, and also allow the users to access the information. The need for Virtual Technology is growing drastically. Nowadays everyone is searching and looking for the availability of Virtual Tour of the places they are interested to visit. It gives them a detailed idea of how the location is going to be. A 360° Virtual Tour is a combination or collection of 360-degree panoramic rotating images. They are stitched together to form a full 360° view of a location. Special types of cameras, lenses, software, and methods are used to bring a tour together into a visual experience for the viewer. The idea proposed through this paper is meant for the people who want to view the virtual tour of the location or destination through an Android application.

They can further make the bookings if interested to visit the location.

KEYWORDS: *Mobile Apps, Virtual Technology, Android Application, 360 Virtual Tour*

INTRODUCTION

There is a need for virtual tour applications in a lot of sectors. Businesses that can benefit by adding the VR technology. Some of them are:

- Car Dealerships
- Education
- Barn Venues
- Entertainment Companies
- Farms
- Florists
- Hotels
- Industrial Locations
- Medical Technology
- Restaurants
- Travel – Destination Weddings
- Wedding Vendors & more...

The 360-degree image rotating of the image will give the users a clear idea about that specific location. In these sectors, the use of the virtual tour through an application will boost the business and the number of customers will increase by providing them a clear idea of the location. In simple images, the clarity of the particular location is less as compared to the virtual tour. If these services are provided in an application, it will be easy for the users to access them using mobile phones. There are websites that provide the virtual tour service, but it will be beneficial for both users and well service providers if they implement this on an application.

Most used apps which are used to create a Virtual Tour are:

1. Google Street View App (Android or iPhone)
2. The My360 App (Android or iPhone)

IMPACT OF 360 VIRTUAL TOURS

1. A technology that sells your services in a short amount of time.
2. Allows forthcoming customers to experience the beauty of your business from anywhere at any time.
3. Fascinating, interactive, and stimulating representation of the premises.
4. Engage customers by showcasing the venue on the online platform.
5. Having a Virtual Tour should be considered a top priority for any business which can benefit from the use of VR.
6. Increases the chances of customers visiting your place of business.
7. It is an innovative, smart, and unique way of marketing.
8. Allows the customers experience your location online.
9. Offers a whole new opportunity for marketing & engaging with prospective customers.
10. This could be the boost needed to outshine competitors.
11. The use of high-quality Virtual Tour and uniqueness can ensure that potential clients choose you over the competition.
12. Virtual Tours will drastically increase engagement with customers or with other businesses.

SOFTWARE APPLICATIONS FOR 360 VIRTUAL TOUR

1. Lapentor (free)

- It has 360-Site Stream.
- Interactive Hotspot is available
- Virtual Reality platform
- Floor plans and maps can be created.
- Panorama view
- There are Functional Plug-in.
- Intentional View can be made.
- Creative theme

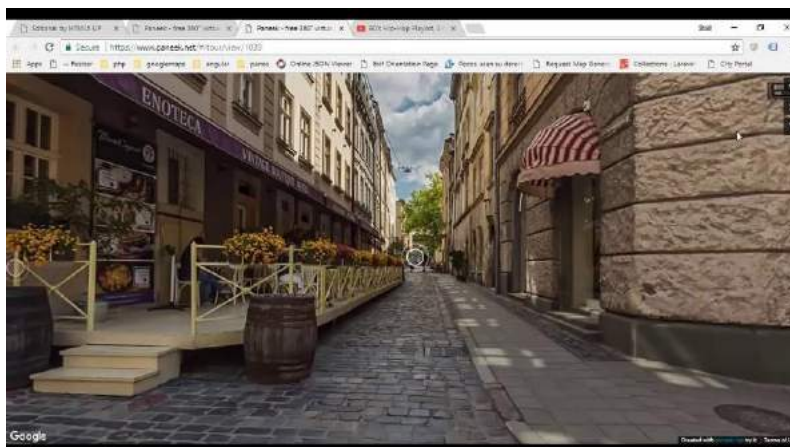
2. Marzipano (free and open source)

- It supports the web browser.
- It Displays 360-degree images.
- Uses the standard HTML and CSS.
- WebGL technology is also used.
- It generates the responsive tour.
- Hotspots and Autorotate are present.
- Simple API is there for use cases.



3. Paneek (free)

- Floor Plans and Maps can be created.
- Panorama view
- Virtual Reality technology
- Beneficial for real estate.
- Works on mobile and desktop.
- It creates 360-degree virtual tour.



4. 3DVista Virtual Tour Pro(free)

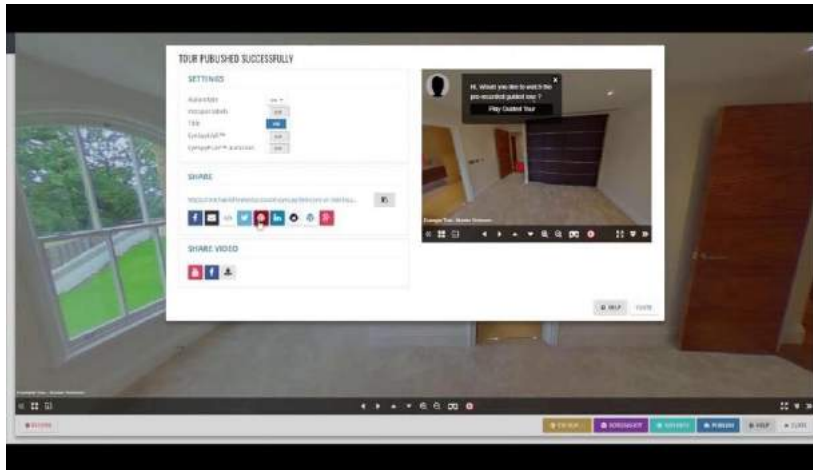
- 3DVista Hosting and Vistazoo account
- Sync all the tours
- Offline and online visits
- Directly from SD card
- Classic 360-degree panoramas
- Immersive audio and voiceover
- Aerial video and photography footage
- Underwater video and photography
- Interactive virtual tours



5. Matterport 3D Showcase (free)

- 360-degree views
- Space Statistics
- Guided Tours
- Captures real 3D measurements
- Colored Point Clouds
- 2D Photography
- Schematic Floor Plans
- Core VR
- Mobile capture
- Mattertag content





6. Eyespy360 (free)

- Tour analytics
- Floor plans and Maps
- Customizable Hotspots
- Drag and Drop
- Social Media Integration
- Support of Video and FAQ
- Real Estate Industry
- Virtual Reality
- Panoramas
- Uses any 360 camera
- Tour-as-a-Service
- Professional Photography
- Info labels
- Image quality filters
- Embed tour in any website
- Post to Facebook and Twitter

ADVANTAGES OF 360 VIRTUAL TOUR

1. **Quality visualizations:** VR can achieve a lot when it comes to providing an impressive visualization. VR headset can be used for improved levels of experiences.
2. **A solution to language barrier:** When the suitable software is used, one can comfortably blend in a foreign language domineered place or country and do perfectly fine using a VR headset.
3. **Increases levels of interest:** Gaming as well as photo shooting are some of the things that the use of VR has created much more interest in than before. It is engaging and also has increased the level of interest in education and as jobs for many people.

4. **Facilitates retention of information:** It is easy to recall content that you have so vividly seen and that is the reason you should use a VR headset. It can produce vivid scenarios makes it easy to recall what has been covered using it.

DISADVANTAGES OF 360 VIRTUAL TOUR

1. **It can be addictive or compelling:** Who would not want the idea of having a perfect quality visualization at every chance they get? Well, it is not shocking, but VR can do that to you. It is being used in both learning and playing games, VR has become addictive to some users and gamers who cannot just let go, and that makes them slaves to the technology. This is the most common reason why people want to sell or give away their VR headsets.
2. **No human interaction:** When it is used for learning in the classroom, VR does not provide any room for interaction since you are not asking questions or even giving suggestions. It is always a one-person show when it comes to learning using a VR headset.
3. **It is costly:** Using VR is very expensive due to the advanced features it uses to perform. It can only be used by those who can afford it, and they are less compared to those who cannot afford them. This makes it unfair especially in learning as not all users can afford it.

CONCLUSION

Although VR devices have improved over the years, it has to come a long way before it stops being science fiction and becomes embedded in society. In 2016, about 2.5 million virtual and augmented reality devices are expected to be sold. In a CCS report, by 2022, 30 million VR devices or software are expected to be sold. Although compared to the number of smartphone users, the number is quite small. But considering how recently this technology is moving into mainstream consumerism, the level of growth is astounding. There are many industries that are applying VR technology to increase their businesses. It is boosting their businesses and the interest and expectations from the customers is also increasing.

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INTERNET OF THINGS IS REVOLUTIONIZING HEALTH CARE SECTOR

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ABSTRACT

Internet of Things (IoT) has been proven for many sectors like enterprises, industry, retail, and healthcare. IoT introduction in the healthcare organization, costs have been significantly cut. Several randomized controlled trials concluded that the available technology aids in comprehensive data collection and facilitates communication between patients and providers. Digitally enabled “smart” devices are valuable tools that may help improve outcomes while providing a flexible, personalized approach.

KEYWORDS: *IOT, HealthCare, Devices, Monitoring, Technology.*

INTRODUCTION

Healthcare services are expensive than ever, the global population is developing, and the number of chronic diseases is on a rise. While technology cannot stop the population from developing or eliminate chronic diseases at once, it can at least make healthcare easier on a pocket and in terms of accessibility. A new prototype, known as the Internet of Things (IoT), has ample connection in numerous areas, including healthcare. The full application of this prototype in the healthcare area is a mutual hope because it allows medical centres to function more capable and patients to obtain better treatment. With the use of this technology-based healthcare method, there are incomparable benefits that could improve the quality and efficiency of treatments. The right diagnosis will also lessen the need for hospitalization. There was no way doctors or hospitals could monitor patients’ health continuously and make recommendations accordingly.

Internet of Things (IoT)-enabled devices have made remote monitoring in the healthcare sector possible, unmanacles the potential to keep patients safe and healthy, and empowering physicians to deliver excellent care. It has also increased patient engagement and satisfaction as interactions with doctors have become easier and more efficient. Furthermore, remote monitoring of patient’s health helps in reducing the length of hospital stay and prevents re-admissions. IOT has applications in healthcare that benefit patients, families, physicians, hospitals and insurance companies.

OBJECTIVE

1. Reduce the cost of operation:

IoT in healthcare has huge potential to reduce the cost of operation using IoT devices and improve the outcomes of the customers. A recent report suggests that the Healthcare IoT can save a quarter of business costs and offer the best IoT medical services. For instance, IoT devices used in healthcare can reduce costs substantially and reduce labour costs. Take the case of a patient being treated in the hospital, all the tests are done like blood test, ECG, urine test is done by humans but with the help of IoT devices, these tests can replace humans and reduce labour costs.

2. Improve Patient Experience

IoT- oriented hospitals are said to provide a better patient experience than other hospitals. IoT devices like sensors and actuators offer remote monitoring of patient parameters like BP, Heart rate, and other features making physical spaces smarter and largely integrated. Moreover, if all the services are given to patients at the right time and all the services are given efficiently then the patient is also satisfied which also increases the rating of the hospital.

3. Increase efficiency of Healthcare:

IoT in healthcare is a good way of making physicians practice and diagnose medicine more easily. Furthermore, the constant monitoring of patient's health leads to proper treatment and with the least possibility of errors. Take the case of a Tuberculosis patient who is admitted to a hospital and all the parameters need to be monitored correctly. If any of the parameters get hindered, then the patients can get treated instantly by the medics without any delay.

4. Improve the outcome of treatment:

Data gathered by the IoT devices are accurate than the data calculated by humans making the doctors make informed decisions. Patient history of infections and diseases as well as the heredity of the diseases of the patient's family can be analysed swiftly. This data can be then transferred to the cloud platform where it can be seen by healthcare professionals. For example, if a person has detected cancer then the patient history of infections and heredity of patients can be easily checked. This will also give a clear idea to the doctor and the surgeons while suggesting any treatment.

5. Improved disease management:

IoT healthcare applications eliminate a large structure of health care professionals to provide monitoring systems for disease management. Sensors and gateways can analyse data and interact with medical professionals which leads to disease management systems. For instance, consider the current Covid-19 crisis where high temperature and loss of breath are the symptoms, temperature controlling devices can be used in a way so that any patient entering the hospital is automatically checked and treatment.

SCOPE OF STUDY

1. Healing at home

Many years back, monitoring patients was limited to the care of family or home nurses in case the patient is healing at home. On the other hand, if a patient decides to be in the hospital, then well-regulated monitoring is an obvious task.

But with the passage of time and the introduction of IoT health monitoring tools, the option of healing at home becomes easy.

The technology thus holds a strengthening future providing independent and mobile health monitoring while reducing the stress to visit doctors and health personnel.

2. Peace of mind.

A patient at home with no one to look at becomes a risky affair. The situation becomes worst when a patient is suffering from dementia. Thankfully, the situation was a tension earlier that has been eliminated with the presence of IoT home health monitoring. The addition of wearable technology makes it even stronger. These wearable devices detect the patient's condition along with sending information to the caretaker too. The information can either be given through text or email while alerting the doctors too.

3. Independent health monitoring

In medical emergencies, people of any age require immediate help from any source of help. The need for monitoring and sending the alert to the concerned person along with the doctor, IoT home health monitoring devices are increasing levels of independent health monitoring.

Apart from that, the device is a blessing for those who are alone. These networks will monitor each activity of a patient with the sensor of sending in alerts in an emergency.

These sensors, on the other hand, can be placed in refrigerators, cabinets, bathroom doors, or any other part of the home.

4. Medicines on Right time

How many times did you forget to take medicines on time? If your answer is many times, you are somehow like me!

This issue has been cut by an IoT monitoring device that keeps track of a patient's prescribed medicine routine. The technology can be proven best for patients with dementia or Alzheimer's.

Take the example of Med Signals' solution- IoT Operated. A unique approach with a pill case that will light up when it is the patient's time to consume medicines.

Another approach is called Media that develops smart packages. These packages in turn automatically send alerts as and when the pill is removed from the pack or bottle.

METHODOLOGY

1.1 Pocket ECG



Fig 1: Pocket ECG

PURPOSE

It is a diagnostic technique used for heartbeats and cardiac detention. It gives access to full ECG signals and it provides all statistical data. Heart problems have a huge impact on people suffering from them. The development of smart wearable IOT devices has revolutionized our lives completely. Computing and communication technologies have the potential to offer a wider variety of services for patients. Through this advancement, a patient's quality of life would improve and provide a benefit to a large portion of the population. Through the availability and advancement of wearable IoT devices, it aids patients in monitoring and controlling their health metrics. In addition, we have used small, light-weight smart IoT devices that are user friendly, like the smartphone and the wristband.

WORKING

To integrate the sensors, we use output of the embedded systems to know the evaluation between normal and abnormal heart rate. The embedded ECG and temperature sensors constantly collect the heart parameters while subject is living normal life. After receiving the data through a low power Bluetooth communication channel, the smartphone will process the data to classify whether the user's condition is normal or abnormal. A quantitative heart rate analysis is performed in the Android platform which gives the user the option of viewing his/her real-time plots of the ECG signal and body temperature.

EXAMPLE

For instance, it gives proper representation in the form of graph showing the heart rate at different time intervals in a day and how it varies over a week. This small and convenient portable cardiac monitor allows for thorough reporting with wide range of statistics available to the physician, as well as inclusive data on all known arrhythmia kinds, and basis for choosing the medical treatment. Pocket ECG can seamlessly switch between Holter testing,

event monitoring, and multi-week mobile cardiac telemetry without a patient's return visit to the doctor's office.

1.2 Diabnext



Fig 2: Diabnext

PURPOSE

It offers a range of products to help people manage diabetes. The company is using IOT combined with cloud technology and connected devices to help diabetic patients. The Diabnext Clipsulin device keeps track of insulin dosages and transmits the information to an app on the user's mobile phone. This eliminates the need for the patient to manually record insulin intake throughout the day in a logbook and provides optimal diabetes management. The objective of the platform is to facilitate the digital education of each patient at each stage of their treatment and based on their individual health status.

WORKING

It automatically has your patients' parameters fitted with DIABNEXT™ connectors on an analytical platform for continuous and accurate monitoring. You can submit educational content such as videos, tips, and messages. The platform provides you with an analysis and support tool during your consultations and the editing of personalized reports for each patient. Analytical reports allow viewing data and trends by groups of patients.

CONCLUSION

The healthcare sector is evolved and still evolving. A Patient starts to accept new change coming their way, using IoT devices to manage the healthcare issues. Healthcare providers are starting to include connected healthcare to drive excellence consistency meet and manage patient expectations. While medical device makers are tackling to development of the more accurate sharp intelligent and user-friendly device. ultimately capable technologies going to improve treatment outcome the management of drugs and disease and patient experience will lead to a more systematic hospital.

IoT will drastically change the healthcare sector and the way patients are treated doctors and specialists are going to help but it's a big change for those who have no access to basic health facilities let us embrace technology as a blessing instead of a curse IoT in the healthcare

sector is promising given because of recent events. The unfolding crisis in the industry caused by the pandemic once again proved the importance of implementing technologies like IoT, big data, and AI to enhance efficiency and improve safety in healthcare. Implementing IoT solutions right now is no longer about staying ahead of the competition, it is about making sure we can handle the crisis.

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ABHAYARAKSHAK: THE SPY ROBOT

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ABSTRACT

Saving human life and providing security to the identical, both are two different aspects. Since, both of them are essential and mandatory, an innovative system is formed for operations which involve high risk for humans to enter the cautious territory. Some surgical strikes may prove very beneficial for military area for spying purposes. The paper deals with the technical design and development of robot which is employed in surveillance, collection of explosive mine samples and metal mines detection.

The most fundamental aim to use a robotic method is to determine mine detection, keeping a watch and other security. Surveillance is major thing when it involves examining the rivalry movements, collecting mine samples or detect the metal mines building a robot which is continuously monitor things. This robot continuously inspects, live streaming and also helps to detect mines imposed within the surrounding to the authorized person. Due to that monitoring the perpetration will be concealed and it will be made accurate because of technology.

KEYWORDS: *Cautious: Care taken avoidance, Circumambience: Surrounding, perpetration: Doing something illegal, concealed: hidden, scout: explore, schlep: to carry.*

INTRODUCTION

Landmines, an explosive mine laid on or simply under the surface of the bottom (JOHNSTON, October 14th, 2018). They're designed to destroy enemy targets starting from vehicles and tanks as they jump over or near the landmine. The vital objective of the research is to style an autonomous robot that's capable of detecting buried landmines, spy and inform the position. This project focuses on the implementation of a robotic vehicle which will sense heavy explosive metallic objects, like detecting land mines. A suspected explosive metal when detected by the control unit, alarms the user as the metal detector circuit is interfaced to it.

A vacuum circuit is mounted on a robotic vehicle and its operation is to detect explosives within the surrounding through air particles. The Robot are often operated by the user and can also inspect the circumambience of the robot. Here are the subsequent pivotal modules used to build this security project:

1. **Mines Detection:** Heavy metal detector mechanism to avoid destruction indicating mines prior and human casualties. Metal detector with high frequency to detect the explosive mines inside or around the ground is implemented to the robot to avoid any human casualty.

2. **Wi-Fi Module:** Operating the robot's movement through wireless connectivity interfacing internet network. The command from the user device is sent to the robot thus, operating the movement of the robot remotely.
3. **Bluetooth Module:** To operate the mechanism of the robot's movement using Bluetooth device as an alternative to internet connectivity. The serial data command from the user device is sent to the robot thus, operating the movement of the robot remotely.
4. **Vacuum:** An electronic device that sucks the air leaving some air particles stuck inside the vacuum. The air particles caught up in the filter is then examined and analysed.
5. **Camera:** Live streaming and recording the robot's movement to the spectators with live audio compatibility. A night vision camera is imposed on the robot for the better clear vision at night or in darkness.
6. **Robotic Arm:** The ability to hold and schlep the objects which when need.
7. **LED & Buzzer:** To give the indication of the mines to the user prior.
8. **GSM Module:** A GSM module is a chip or circuit that is used to establish communication between a mobile device or a computing machine and a GSM or GPRS system.

METHODOLOGY



The mobile robots with multi-sensor fusion has the capabilities of performing varied variety of tasks, drawn by the baseline of the sensors being used. This research focusses on the algorithms of finding mines in a minefield being an environment specific task of navigating around the field and detecting mines using a metal detector sensor.

Mine detection in a given field can be explained as a phenomena of reading mine related signals and predicting the location. Since the mines are laid

below the ground, the field of vision gets restricted to the metal detector location. Considering a stationary minefield region, this robot considers the detection of mines over the metal detector region by localizing the mine signals and classifying from metal signals (Gowda, May 2015).

The optimal detector region is controlled by factors like the non-holonomic vehicle constraints and the metal detector moving arm constraints.

To enter and exit dangerous place that human cannot, a wireless night-sight camera is installed on the robot to navigate remotely. The robot will move to desired destination and spy images around the robot, when the user controls by remote controller. Also, with the wireless remote controller the user can check and recommend from the device. Even in darkest areas using infrared lighting the night -sight camera mounted on robot allows for efficient spying.

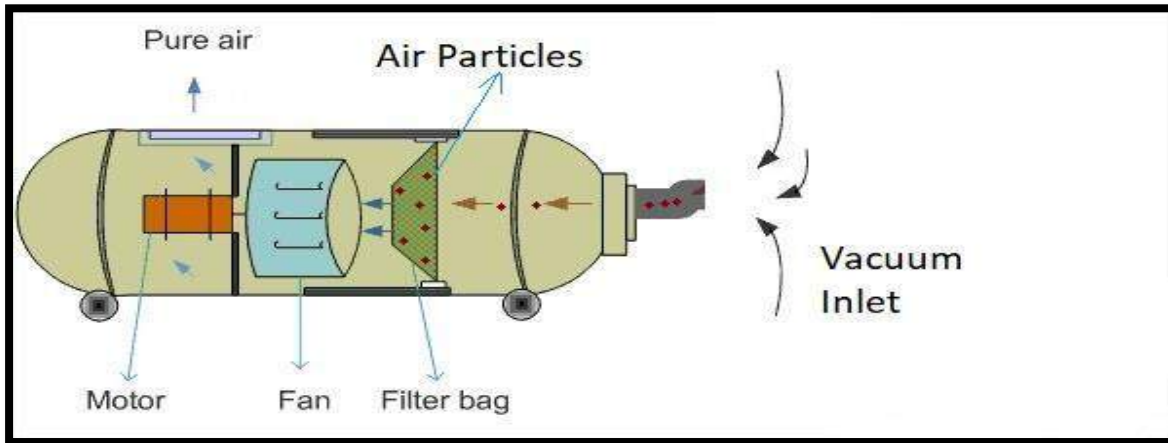


FIG.2 VACUUM WORKING PRINCIPLE

The vacuum uses an electrical motor that spins a fan, sucking in air inside and minute air particles traveling through the inlet of the vacuum tube gets stuck within the filter of the tube pushing the air on the opposite side into a bag or a canister to form the negative pressure. This principle of vacuum is often implemented to scout the land mines throughout the area. The air around the landmines holding the particles get caught within the wire mesh of the filter and thus the air sampling will be sniffed by the dog unit it detects explosives. The autonomous vehicle is controlled wirelessly from a secure distance. Additional feature is added, the robot can detect mines, spy, carry and navigate.

CONCLUSION

To design and implement a prototype of an efficient low-cost automated sensing element that may replace the present employed human detectors within the mission of detecting and extracting mines in an exceedingly suspected area of land is that the main objective. As well, communication and data analysis within the domain of landmine detection. The detector wirelessly communicates with a server to transmit and store the detected information like the placement of the metal object and captured images of the land where does it exist. To switch the present employed human detectors within the mission of detecting mines additionally as communication and data analysis in an exceedingly suspected area of land, a prototype of an efficient low-cost automated detector is meant and implemented. The placement of the metal object and captured images of the land where does it exist is tracked by the detector which wirelessly communicates with a server to transmit and store the detected information. Designing an integrated system which consists of a compact robot provides with a detector, GSM, Bluetooth and Wi-Fi technology to speak with its software inside the pc.

The proposed system states that how a robot may be used for spy & detecting purpose. The software system of the robot is develop effectively employing a remote controller program and by using Wi-Fi wireless network, which makes it simpler and convenient to work the robot a series wheel will be replaced by motor wheels that may move anywhere at any rough condition and might provide better utility.

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A RESEARCH PAPER: ANALYSIS OF NETWORK DATA ENCRYPTION & DECRYPTION TECHNIQUES IN COMMUNICATION SYSTEM

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ABSTRACT

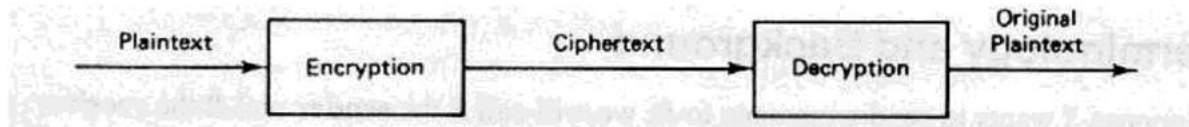
This paper contains the analysis of network encoding and decryption techniques utilized in communication systems. In network communication systems, the exchange of data mostly occurs on networked computers, mobile phones, and other internet-based electronic gadgets. Unsecured data that travels through different Networks are hospitable to many sorts of attacks and may be read, altered, or forged by anyone who has access thereto data. Encryption is that the process through which data is encoded in order that it remains hidden from or inaccessible to unauthorized users. It helps protect private information, sensitive data, and should enhance the security of communication between client apps and servers. to stop such an attack, encoding and decryption techniques are employed. soon see the effect and evaluate the performance of the encryption and decryption of every technique utilized in communication systems.

KEYWORDS: *Symmetric encryption, Asymmetric encryption, DES, AES, RSA, DSA, Ciphertext, Application Implementation.*

INTRODUCTION

In the context of cryptography, encryption is a mechanism to make sure confidentiality. Since data could also be visible on the web, sensitive information like passwords and private communication could also be exposed to potential interceptors. to guard this information, encryption algorithms convert plaintext into cipher text to rework the first data to a non-readable format accessible only to authorized parties who can decrypt the info back to a readable format. the method of encrypting and decrypting messages involves keys.

Encryption has long been employed by militaries and governments to facilitate secret communication. the pc Security Institute reported that in 2007, 71% of companies surveyed utilized encryption for a couple of their data in transit, and 53% utilized encryption for a couple of their data in storage. Encryption is often wont to protect data "at rest", like information stored on computers and storage devices (e.g. USB flash drives).The two main sorts of keys in cryptographic systems are symmetric-key and public-key (also referred to as asymmetric-key)



Symmetric Encryption:

In symmetric cryptography, the key used for encryption is analogous to the key utilized in decryption. Thus, the key distribution has got to be made before the transmission of data. The key plays a very important role in symmetric cryptography since its security directly depends on the nature of the key i.e. the key length etc. There are various symmetric key algorithms like DES, TRIPLE DES, AES, RC4, RC6, and BLOWFISH.



Data Encryption Standard (DES):

DES was the primary encryption standard to be recommended by the National Institute of Standards and Technology (NIST). It's supported the IBM proposed algorithm called Lucifer. DES became typical in 1974 and federally approved encryption algorithm for sensitive but non-classified information in 1977. Since that point, many attacks and methods recorded that exploit the weaknesses of DES, which made it an insecure block cipher. Encoding Standard (DES) may be a widely used method of knowledge encryption employing a private (secret) key that was judged so difficult to interrupt by the U.S. government that it had been restricted from exportation to other countries.

Advanced Encryption Standard (AES):

AES may be a new encryption standard recommended by NIST to exchange DES. Rijndael (pronounced Rain Doll) algorithm was selected in 1997 after a contest to pick the simplest encryption standard [5]. its asymmetric cipher defined in Federal information science (FIPS) Standard Number 197 in 2001 because the federal approved the encryption algorithm. The National Security Agency has approved 128-bit AES to be used up to SECRET level and 192-bit AES to be used up to TOP SECRET level. AES is predicated upon the Rijndael algorithm, which was invented by Joan Daemen

and Vincent Rijmen. AES specifies three approved key lengths: 128-bits, 192-bits, and 256-bits. Brute force attack is that the only effective attack known against it, during which the attacker tries to check all the characters combinations to unlock the encryption.

Blowfish:

The Blowfish algorithm was first introduced in 1993. it's one among the foremost common property right encryption algorithms provided by [6], one among the world's leading cryptologists, and therefore the president of Counterpane Systems, a consulting company specializing in cryptography and computer security. This algorithm are often optimized in hardware applications though it's mostly utilized in software applications and suffers from weak keys problem, no attack is understood to achieve success against it. Blowfish may be a variable length key, 64-bit block cipher. The model for symmetric:

Asymmetric Encryption:

Asymmetric encryption could also be a kind of cryptosystem during which encryption and decryption are performed using different keys public key and private key.it is also mentioned as public-key encryption.It can transform plaintext into ciphertext employing 1 among two keys and an encryption algorithm. Using paired key and decryption algorithm, the plaintext is recovered from the ciphertext. Asymmetric encryption is often used for confidentiality, authentication, or both.

The most widely used public-key cryptosystem is RSA. the matter of attacking RSA is based on the matter of finding the prime factors of variety.

Rivest, Adi Shamir, and Leonard Adleman (RSA):

RSA is an online encryption and authentication system that uses an algorithm developed in 1977 by Ron Rivest, Adi Shamir, and Leonard Adleman. The RSA algorithm is that the most ordinarily used encryption and authentication algorithm and is included as a part of the online browsers from Microsoft and Netscape. it is also a part of Lotus Notes, Intuit's Quicken, and lots of other products. The encryption system is owned by Rivest, Adi Shamir, and Leonard Adleman Security. the corporate licenses the algorithm technologies and also sells development kits. The technologies are a part of existing or proposed Web, Internet, and computing standards.

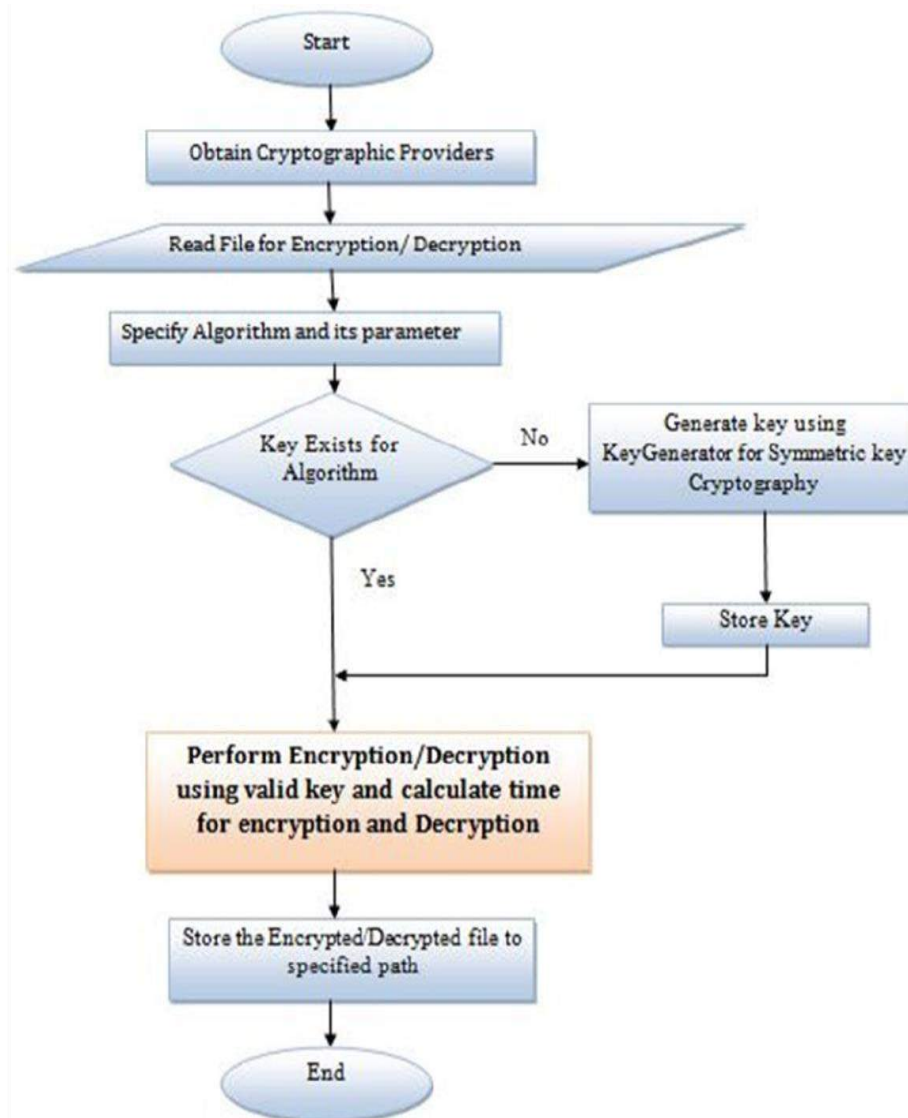
Digital Signature (DSA):

Digital signatures are implemented through public-key encryption and are wont to verify the first and content of a message [9]. The recipient of the digital signature is often sure that the message genuinely came from the sender because the slightest change within the message gets reflected multi-fold within the message digest in an obvious manner. The recipient must make certain that the message wasn't changed after the message digest was generated.

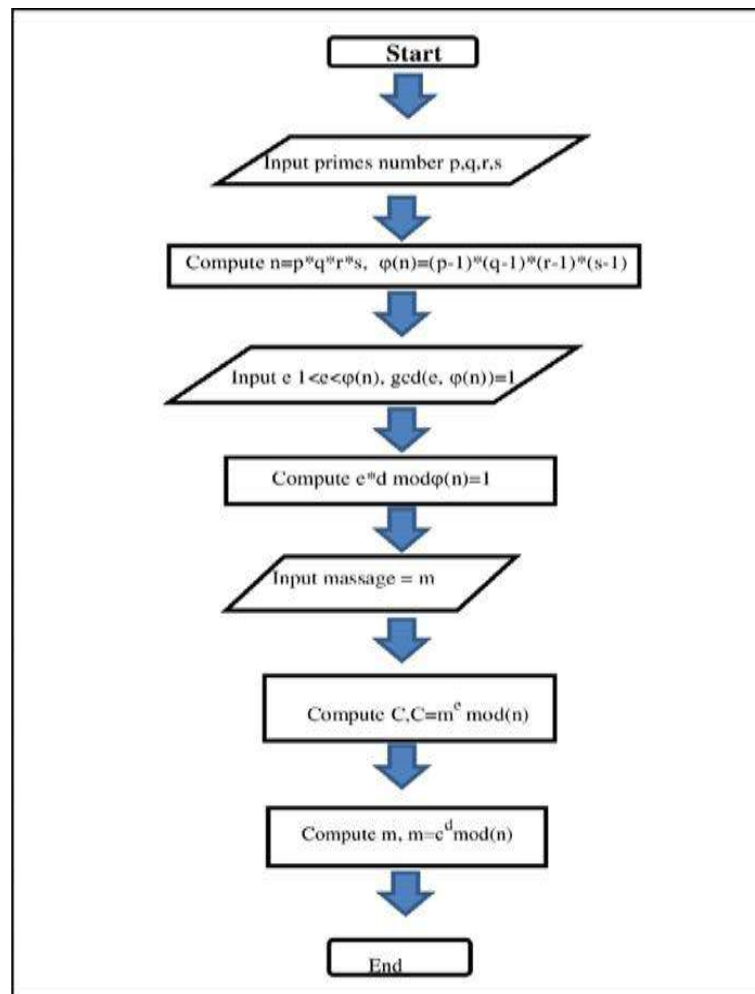
OBJECTIVES

This paper contains the study of how the data is traveled throughout the network. The reports of the data leak and their analysis and also root causes. The techniques and tools for securing data have been introduced.

Related Work:



SYMMETRIC FLOW DIAGRAM



Ways to Secure RESTful Web Services

1) BASIC Authentication:

It's simplest of all techniques and doubtless most used also. you use login/password forms – it's basic authentication only. You input your username and password and submit the form to the server, and the application identifies you as a user – you're allowed to use the system – else you get an error.

The main problem with this security implementation is that credentials are propagated in a clear way from the client to the server. Testimonial is merely encoded with Base64 in transit, but not encrypted or hashed in any way. In this way, any sniffer could read the sent packages over the network.

HTTPS is typically preferred over or utilized in conjunction with Basic Authentication which makes the conversation with the webserver entirely encrypted. the only part is that no-one can even guess from the surface that Basic Auth is occurring.

2) DIGEST Authentication:

This authentication method makes use of a hashing algorithm to encrypt the password (called password hash) entered by the user before sending it to the server. This, obviously, makes it much safer than the essential authentication method, during which the user's password travels in plain text which can be easily read by whoever intercepts it. Remember that when this password hash is generated and stored in the database, you cannot convert it back to the original password. whenever the user login into the application, you've to regenerate the password hash again and match it with the hash stored in a database. So, if the user forgot his/her password, you would need to send him a brief-lived password and ask him to vary it alongside his new password. Well, it is a common trend nowadays.

3) OAUTH2 API Keys:

The developed applications that interact with other applications over the cloud e.g. Facebook integration or Twitter authentication etc. then you've already used this. They require to provide an API key and API secret to rightly identify you. The API key and secret are some random encoded strings that is impossible to guess. To understand how it works, let us assume you're employing a Flickr (photo-sharing application) and wish to post quite your photos using its REST API. You need to request to build as documented in Flickr docs, then send it.

Once they received the request, Flickr authenticates the user by reading the knowledge from the API key with the key that belongs to the user. Once validations are successful, then the server delivers a response to the client. Thus, we obtain a response with all the photos that are recently posted within Flickr. As you will notice, this way, you'll easily create applications using the provider's API. The provider will allow you to authenticate, and access public information. If someone starts disrespecting agreements e.g. sending junk traffic or any policy violation, the provider withdraws the API key and stops the abusive use of its APIs.

DESIGN METHODOLOGY

Use cases of encryption:

Your data can either be in-transit or at-rest. Data in either of these forms must be encrypted according to its sensitivity.

Online payments: PCI-DSS standards mandate payment card data (stored also as in-transit forms) to be encrypted using algorithms like AES-256.

Data within the cloud: publicly and hybrid cloud models, your data resides at a third-party data center. Any attack on co-tenants may end in your data getting exposed too. Encrypting your data within the cloud prevents hackers from having the power to read it correctly.

Databases: Encrypting databases help to limit external hackers also as insiders from seeing specific organizational data. Transparent database encryption (TDE) could also be a well-liked database encryption technique that helps to encrypt all “data at rest” in one go.

Emails: Email encryption helps to protect sensitive information sent through email channels. Public key encryption methods in conjunction with digital certificates are usually the methods used for securing email communications.

Steps to implement an effective encryption strategy:

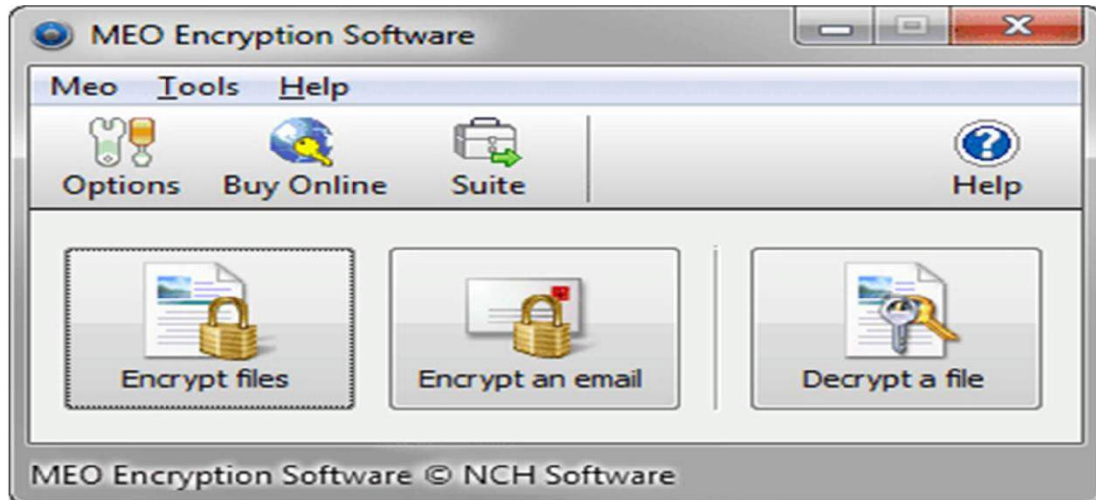
Building and implementing an encryption strategy may be a collaborative effort between your IT, operations, and management teams. Here are some steps that will help to create an efficient encryption strategy.

Classify data: you would like to spot what data to encrypt.

Identify the proper encryption tools: In most cases, you would not get to implement a separate encryption software. Encryption features are present in commonly used apps and security tools like email security, payment gateways, and cloud security software. except for encrypting databases or sensitive individual files, you would possibly need separate encryption tools.

Implement strong key management practices: If your keys fall under the incorrect hands, your data security is at stake. you would like to stay a listing of all of your encryption keys, alongside information on who has access to them and the way and when the keys are used. Key management solutions assist you to store and manage encryption keys.

Understand the restrictions of encryption: Encryption does not assist you to prevent or detect cyberattacks. It only ensures that hackers won't be ready to read your data. Hence, alongside encrypting data, it's also important to implement other strong cybersecurity and intrusion detection measures like anti-virus solutions and firewalls.



➤ **How the Instagram Leak Compares With 5 Recent Data Breaches:**

The following could also be an inventory of 5 recent data breaches, each with a singular root cause that can inform and improve IT security practices.

An unsecured database holding the private information of 49 million Instagram customers was recently discovered. The data breach has affected numerous celebrities, influencers, and makes because the database in question is owned by a social media marketing firm that focuses on sponsored content for the platform. For Facebook-the parent company of Instagram-the episode is the most recent during a series of data security lapses.

Breaches like Instagram's appear within the news on a day to day, but, though the results are usually similar, the causes often vary. Businesses must learn from recent data breaches to protect themselves against similar attacks within the longer term.

Lessons learned from recent data breaches:

There are many articles out there listing the most important data breaches consistent with what percentage of records were exposed, but weight must even be given to what sort of data was breached and the way it had been exposed.

In terms of sheer size, the Yahoo breach of 2014 still stands because of the single biggest data breach, with the corporate, now admitting that each one 3 billion email accounts were compromised. However, investigators still have not any idea how it occurred, so there's little we will learn from it.

The following may be a list of 5 recent data breaches, each with a singular root cause that will inform and improve IT security practices.

➤ **Target-December 2013 :**

In late 2013, Target Corp. divulged the breach of 110 million customer accounts. Root cause: Lack of multifactor authentication

Takeaway: Multi-factor authorization is usually key to preventing data breaches.

➤ **Equifax-July 2017:**

In 2017, Equifax suffered a cyberattack that resulted within the breach of 143 million customers, nearly half the adult population of the us.

Root cause: Failure to patch a known vulnerability.

Takeaway: Installing patches during a timely manner may be a critical data breach prevention measure.

➤ **Heartland Payment Systems - March 2008 :**

In 2008, Heartland Payment Systems experienced a breach of 134 million debit and mastercard records, a record number at the time.

Root cause: SQL injection attack

Takeaway: Carefully designed SQL queries, restricted privileges, and cybersecurity software can all mitigate the risks of SQL injection attacks.

➤ **SunTrust - April 2018 :**

SunTrust may be a bank company with quite 1400 branches throughout the southeastern us . In April, 2018, SunTrust announced that 1.5 million clients had their names, phone numbers, addresses, and account balances exposed.

Root cause: Insider attack

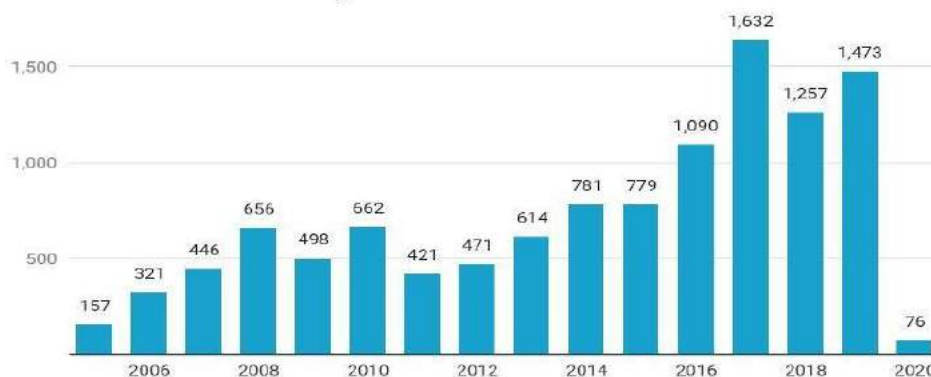
Takeaway: Companies must guard against both malicious outsiders and trusted insiders.

➤ **Marriott - September 2018 :**

Marriott's data breach during the autumn of 2018 is one among the foremost consequential data

Total number of breaches (2005–2020, to date)

Number of data breaches affecting US consumers.



breaches on record. Root cause: Advanced persistent threat

CONCLUSION

In this research work, different encoding techniques utilized in encrypting and decrypting network data; the symmetric encryption technique that uses just one key (the encryption key) to encrypt the info (examples DES, AES, Blowfish, etc.) and therefore the asymmetric encryption technique that uses two keys (a private key and a public key) to encrypt and decrypt the info (example RSA and DSA) were treated. This paper has presented the flow chart of a program on asymmetric and symmetric to offer a thought on how the implementation is completed for securing data while sending and receiving throughout the network. Further there's a report of knowledge breaches and their root causes.

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DATA LEAKAGE DETECTION SYSTEM

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ABSTRACT

Data leakage detection techniques are built for users to track if data has been leaked and trace the sources of data leakage. A data distributor of the any company has given sensitive data about their work or business to one or more authorized person. If that data is shared by these agents who does not have the authority to share this data to any employee and that data are leaked and found in an unauthorized place.

In our project we are implementing the system for detection of leaked data and possibly the agent who is responsible for the leakage of data. We are using duplicate data which does not known to the agent's for identifying leakages. We are also providing an alert service mechanism. When the information is leaked by the agent then it will send a message to the distributor or authorized person the data is going to leak as well as it can identify that leaker by showing its IP address.

KEYWORDS: *Distributor, Guilty Agent, Third Party, Sensitive Data, Alert.*

INTRODUCTION

Creating a clear background is one of the most important actions to be taken at every beginning to ensure success at the end. A background is a formal document containing a common description of what is expected to be done and how to produce the expected amount of work. Data leakage detection techniques are built for users to track if data has been leaked and trace the sources of data leakage. The head of any company has given an important information about their work or business to an authorized employee or person and that information or that data should be handle with authority and should not interfere by any other unauthorized person or employee.

The idea of our project is to find out the agent (guilty person) who leaked the crucial or confidential data of the company. It will give an alert message to the guilty person if he/she will break the rules again and again and would allow to take legal actions against him/her. The distributor can register their name and information then he/she will get the authority as the distributor. The agent can register their information and then can send request to the distributor.

After the request is received by that agent the distributor will provide that agent with some unique username and password.

As soon as the agent receives its username and password from the distributor it will login by entering its authenticated username and password. Then the agent will send request to the distributor for data and the request is direct or explicit. Then the distributor will check the request which was send by the agent and the distributor will also look forward for the thing that the request which was send by an agent is our agent or not? then the distributor will check the type of request. Then it will collect data from database and would add fake object with it.

The distributor will then check whether that data is sent to that agent or not. If the data is sent to that agent, then it will notify with the message that the send is send and if it is not send it will notify with an error message and then the distributor can retry to send that data to the authorized agent or person.

If the third party (unauthorized person) send a request to an agent for providing the sensitive or confidential data and if the agent send that data to that unauthorized person(which does not have any authority) then the alert message is send to the distributor notify that the agent is guilty. Then the distributor will send the warning message to that guilty agent do not dare to do this again and if that mistake is again done by that agent, then the distributor will take a legal action against that agent.

The goal of our project is to detect the agent who leaked the company's confidential data to an unauthorized person and to send alert message to the distributor regarding the fraud happening with the data.

Objectives are statement that describe what the project will accomplish.

The objective of our project is as follows: -

- i. Detecting a guilty agent.
- ii. Send message or mail to the distributor with identification of guilty agent.
- iii. Send alert or warning message to the guilty agent.
- iv. Taking legal action against the guilty agent when he/she try to break the rules of the company.

The need of our project is to: -

- i. Try to protect the confidential of the company.
- ii. Find the guilty agent.
- iii. Secure complex data.

ADDITION

In our project we are adding one more section that is of DATA DUPLICATION. It identifies if the data is redundant or false positive or not. Like, if we uploaded a particular file, the system crosschecks the data, and it will make a new database if the data is new. Otherwise, the system will not keep the data if it is already there. The main concept is to reduce duplicate data as much

as possible. It helps to store data with a minimum number of duplications as possible so that user gets maximum storage space.

It helps to reduce the complexity that happens with redundant files. As a result, the user does not need to delete copy files manually. Easier to upload and download files just with a connection of active internet. It compares the newly uploaded chunk of data with the existing chunk of data and determines the decision.

It increases the process performance so that the window gets affected and helps to run on a cloud platform in an easier manner.

MODULES

DISTRIBUTOR MODULE

Distributor is the main user of the company. It can accept the request from the agent and provide the user ID and password for the authorized person of the company. It also accepts the data request from the agent and check whether the request is explicit or not. The distributor maintains the confidential data in database and distribute as per the agent's request by adding the fake object along with the original data. The distributor can send the warning messages or alert message if the agent is found guilty. The distributor can change the password and it can also delete any agent by selecting delete option.

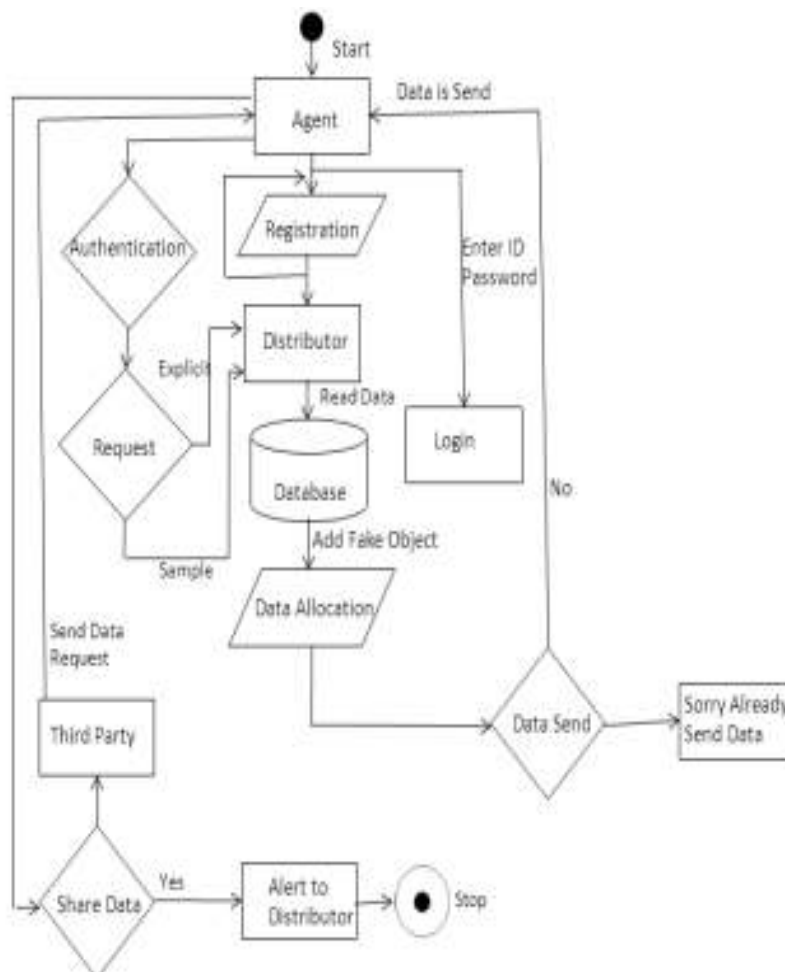
AGENT MODULE

Agent can register their information and send the registration request to the distributor. Agent can login by using its authorized user ID and password. Agent can send request for the data. Sometimes the agent can accept the request of the third party.

DATA ALLOCATION MODULE

As per the request of the agent, fake objects are generated by the distributor. The objects are actually designed to look like a real object and are distributed to the agent in order to increase the chances of detecting agents that leak confidential data to the third party or an unauthorized person.

Flowchart



ALLOCATION STRATEGIES

Explicit Data Request:

In this case distributor is not allowed to add fake objects. The data allocation is fully defined by the agent’s data requests. It uses two algorithms based on request type i.e., either e-Random algorithm to randomly add fake objects.

Sample Data Request:

An object allocation that satisfies requests and ignores the distributor’s objective to give each agent UI a randomly selected subset of T of size m_i . We denote this as s-random algorithm.

DATA LEAKAGE DETECTION MODULE

In this module distributor detects guilt agents based on fake objects to corresponding agents. Send the alert message to the distributor the agent is guiltily.

CONCLUSION

In our project the distributor can check the list of registration request for new agent and update its information successfully. We are also providing with user ID and password credential which is send to the agent and with the help of these credential the agent can login into the system.

We have also added one more section that is duplication of data which helps us to reduce the number of duplicate data in future. It helps to reduce the complexity that happens with redundant files. As a result, the user does not net to delete copy files manually. It increases the process performance so that the window gets affected and helps to run on a cloud platform in an easier manner.

In agent guilt module we can check send alert message to the distributor when the agent has shared any confidential data. This is main goal of our project.

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STRAY ANIMAL ADOPTION

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ABSTRACT

The primary goal of this Web-application is to adopt a stray animal and create awareness among society. This project deals with developing a Web application for animal adoption. It will provide the user with a category of different animals available for adoption in the organization. The system is implemented using a 3-tier approach, with backend relational databases of MySQL and a web browser as the front-end client. This is a project to develop a basic website where a customer is provided with the animal description and also to know about the technologies used to develop such an application. This system involves its database to be maintained. The information or details about the animal are stored in the database. The server process is for dealing with the User detail and the Animal list based on the addresses provided by the organization.

INTRODUCTION

"The only creatures that are evolved enough to convey pure love are dogs and infants."

~ Johnny Depp

The definition of Stray Animal: Pets that have strayed from or are abandoned by their owners, or maybe feral animals that have never been owned. In western countries, there is a various organization which Rescues such kind of animals in that their food, vet, etc. are taken care by the government but in India, there is no arrangement for such rescue organization, so to support them we are making a website to create awareness through the internet medium. Pet adoption is the process of taking responsibility for a pet that a previous owner has abandoned or released to a shelter or rescue organization. Stray Animal adoption website has databases of pets being housed by many animal shelters and rescue groups and are searchable by the public. The adoption of strays allows animals to live a happy and healthy life in a loving home.

PROBLEM DEFINITION

Stray Animals: Problems caused by them?

Large numbers of dogs and cats end up as stray and homeless animals, and they are often viewed as a problem. Animal protection non-governmental organizations (NGOs), particularly in the Western world, have established shelters to deal with this issue. Their ideal goal is to rehome stray and abandoned dogs and cats to avoid them living difficult lives as strays or being euthanized.

Due to the increasing number of stray animals yearly, it has become a serious issue that needs to be solved immediately. Many stray animals have led to pet overpopulation and this will bring a lot of disadvantages to society. There are many problems caused by stray animals which influence people's daily life. For instance, without proper care and shelter, animals can easily develop diseases such as rabies which is a deadly disease that can be easily infected and can be fatal to human being.

Stray Animals: Solution

Adoption is open to everyone capable of taking care of a pet. It is also a chance for a homeless pet to find a permanent home and meet its rightful owner. Besides that, the owner who adopts a stray is considered a lifesaver because the stray animals and owners have a chance to love each other. Adoption should be practiced as it reduces pet overpopulation. Similarly, this practice can lower down the statistic of people getting hurt by stray animals and reduce the effects that bring to human.

In India, their some rescue organizations are:

- AWAAZ
- RESQ
- Red Paw Rescue
- Visakha Society for Protection and Care of Animal (VSPCA)

AIMS AND OBJECTIVES

➤ Aims

This research aims to create a web application that has integrated functions that are used to aid animals from several aspects. The application should be able to drastically reduce the number of stray animals and help their respective owners to find their desired pets. This system allows users to adopt pets.

➤ Objectives

- We believe that people should treat each animal as kindly as possible.

- Reducing the death rate by helping people understand that there are solutions other than killing dogs.
- School education activities to make the younger generation more aware of animal welfare.
- We believe we have a duty to protect and care for the suffering and homeless animal.
- Provide wildlife humane education for residents and staff.
- Work with and maintain media coverage about awareness of stray animals.
- Improve adoption retention rates and improve overall adoption rates.

EQUATIONS, FIGURES, AND TABLES

We use a simple Hotelling (1929) model to characterize the behaviors of dogs/cat purchasers or adopters. Let the animal consumers with a population size normalized to one distribute uniformly over a unit location interval $[0, 1]$. To simplify the analyses, we assume that the consumers have no outside options of not getting a pet and that each of them can own one dog/cat only. Accordingly, each consumer either buys a dog/cat from a pet shop or adopts it from an animal shelter or street. Suppose that all pet shops are located at end-point 0, and shelter and street dogs/cats are located at end-point. There are $\bar{Q} > 1$ strays in animal shelters and on streets, which is exogenous in this model. If a consumer located at point $y \in [0,1]$ buys a dog/cat from a pet shop, she/he will have utility.

$$U_y = h_0 - c_0y - t - p \quad (1)$$

Where $h_0 > 0$ is the happiness level from buying a dog/cat, c_0y is the cost to raise the purchased pet, t is the taxes ($t > 0$) paid to or the subsidies ($t < 0$) obtained from the regulator, and p is the purchase price of the dog/cat. The closer is the consumer located to the pet shop (i.e. smaller y), the lower the raising cost has the consumer because he/she is more willing to take care of the purchased dog/cat.

In contrast, if consumer y adopts a dog/cat from an animal shelter or street, she/he paying nothing will have utility

$$U_y = h_1 - c_1(1 - y) \quad (2)$$

where $h_1 < 0$ is her/his happiness level and $c_1(1 - y)$ is the cost to raise the adopted dog/cat. The closer is the consumer located to the animal shelter (i.e., smaller $(1 - y)$), the lower the raising cost has the consumer because he/she is more willing to take care of the adopted animal. Unequal values of h_0 and h_1 will reflect distinct happiness levels through buying and adopting dogs/cats. Also, we allow different values of c_0 and c_1 to represent distinct raising costs for a purchased pet and a stray. Or, one can regard c_0 and c_1 as consumers' idiosyncratic preferences over pet shops and animal shelters (or street dogs/cats), respectively. The larger is c_0 (c_1), the less a consumer is willing to take care of a dog/cat from pet shops (animal shelters or street dogs/cats).

By making U_y in (1)-(2) equal, we get that a consumer located at x is indifferent between purchasing and adopting a dog/cat due to :

$$h_0 - c_0x - t - p = h_1 - c_1(1 - x) \Leftrightarrow x = \frac{h_0 + c_1 - h_1 - t - p}{(c_0 + c_1)}$$

To have $x \in [0,1]$, we impose condition.

$$h_1 - c_1 + t + p < h_0 < h_1 + c_0 + t + p \quad (3)$$

This condition suggests that the consumer's happiness from buying a pet animal cannot be too large or too small. If h_0 is too large, no one will adopt strays. On the other hand, the pet-animal market would disappear if h_0 is too small. These extreme cases are not consistent with real-world situations. Then, we have the demand function for pet shops

$$x = \frac{h_0 + c_1 - h_1 - t - p}{(c_0 + c_1)} \quad (4)$$

and the demand function for strays in animal shelters and on streets is

$$1 - x = \frac{h_1 + c_0 + t + p - h_0}{(c_0 + c_1)} \quad (5)$$

Accordingly, the total consumer surplus of having a dog/cat by (4) and (5) equals

$$\begin{aligned} CS(p, x) &\equiv \int_0^x (h_0 - c_0y - t - p) dy + \int_x^1 [h_1 - c_1(1 - y)] dy \\ &= h_1 - \frac{c_1}{2} + x[h_0 + c_1 - h_1 - t - p] - \frac{x^2}{2}(c_0 + c_1) \end{aligned} \quad (6)$$

We presume that pet shops provide identical animals at a constant marginal cost $\bar{c} > 0$. The pet-animal market can be perfectly or imperfectly competitive. Given pet-animal demand x in (4), we can derive the associated equilibrium price (p^*), equilibrium amount of pet animals (x^*) and producers surplus (Π^*) for all pet shops in a perfectly competitive market. In contrast, we use \hat{p} , \hat{x} and $\hat{\Pi}$ to denote the equilibrium price, the equilibrium amount of pet animals, and producers' surplus for all pet shops in an imperfectly competitive market. Equilibria (\hat{p} , \hat{x} and $\hat{\Pi}$) and (p^* , x^* , Π^*) will be derived in Sections 3.1 and 3.2, respectively.

Next, we define the social welfare function, SW as the sum of consumers' surplus, producers' surplus, tax revenues, and the negative externality value caused by stray animals. Precisely, we have

$$SW = \begin{cases} CS(p^*, x^*) + \Pi^* + tx^* - d[\bar{Q} - (1 - x^*) + r_0x^* + r_1(1 + x^*)] \\ \text{in a perfectly competitive market} \\ CS(\hat{p}, \hat{x}) + \hat{\Pi} + t\hat{x} - d[\bar{Q} - (1 - \hat{x}) + r_0\hat{x} + r_1(1 + \hat{x})] \\ \text{in a imperfectly competitive market} \end{cases} \quad (7)$$

where r_0 and r_1 are the probabilities of consumers' abandoning their dogs/cats after buying and adopting them, respectively and

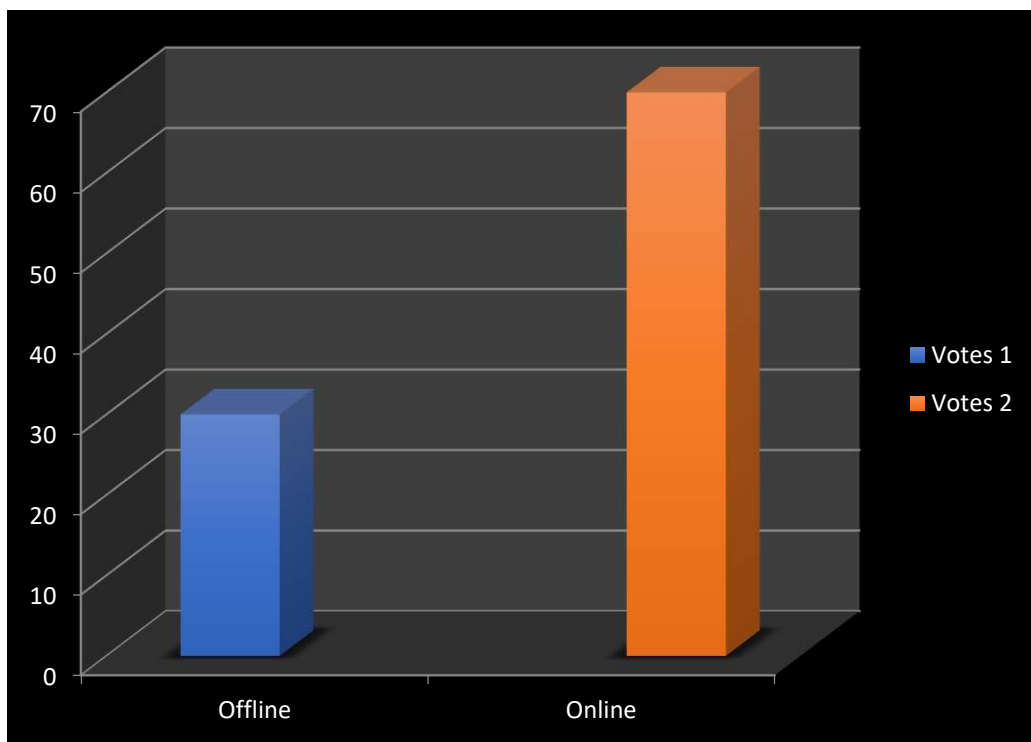
$$[\bar{Q} - (1 - x^*) + r_0x^* + r_1(1 - x^*)] \text{ and } [\bar{Q} - (1 - \hat{x}) + r_0\hat{x} + r_1(1 - \hat{x})]$$

are the numbers of stray animals in society at the end of the period.

*For more Please refer to reference article no 5.

On Survey among people about which is more effective in animal adoption.

The figure of Comparison of Effectiveness Online v/s Offline animal adoption:



CONCLUSION

Being nice to animals, especially dogs/cats, is not only humane but also has huge economic value. Many problems and costs existing in our living environments can be resolved if we can control stray animals. When the animal was gotten rescued by the organization and after treating them at the vet or making them healthy, they needed a new home, a new family who could take good care of that animal. So the organizations have put their advertisement in the newspaper or even make a poster of them which could cost them much.

That why our web-application Stray Animal Adoption would help them by displaying their animal list on this application so that organizations can reach them through internet medium also. As this application is built to support them so the total cost for organizations is zero.

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AI BASED TECHNOLOGIES : - THE FUTURE IS SMARTER

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ABSTRACT

The term artificial intelligence is coined in the year 1956 however today thanks to enhancing algorithms and computing as well as the storage of the ordinary using computer systems i.e., we can assume about this modern technology of our future. The world is shifting toward human to human-less technologies. As a phase of today's world, the time period artificial intelligence is a new and interest-gaining subject to us. Most Tech scientists from the world stated that in the coming time section AI is used in medical, business, agriculture, areas of research, etc. Big companies like google, amazon, Microsoft, and Facebook are presently working on an AI-based setup to maintain track of their work and business. Today's huge example is AI-based tesla cars. Most possibly why we want AI in the future due to the fact a machine can study things through practising lots of stuff. In this technology, today's supercomputer can self-trained via taking task as many as possible through processing tons of data and additionally to enhance the protection of data.

KEYWORDS - *self-driving car of tesla, Android like Sofia, Agricultural AI technologies, AI military weapon*

HISTORY OF ARTIFICIAL INTELLIGENT BASED TECHNOLOGY

The research of AI begins in the year of early 1950s by **John McCarthy** when the technology is rising to its peak and very essential roles of a ride in our future. The scientist's research in AI is concern that how a machine can resolve the real-world problem and self-learn the fundamental things and they also seeking interest in the problem fixing approaches for the nation. In the year the 1960s the US branch of defence begin the research on AI. At the time they begin the research, they give interest in how a computer can perform simple human activities.

The advantage of a non-AI Technologies is:

1. Telephones: - One end of a person can communicate with other end of a person by use this technology.
2. Walkie talkie: - A small radio that you can carry with you to send or receive messages.
3. DVD: - DVD (**digital video** disc) is a technology based on store the data in digital form (0's and 1's). The technology use to the green light to scan the data that are stored in DVD.
4. Television: - An electronic system of fixed and moving object image in the visual is known as television

The disadvantage of a non-AI Technologies is:

1. The machine cannot self-train itself. The human has to upgrade it.

2. The acquire large storage space and give less output.
3. The technology is slowly execution.

Considering the disadvantages, Artificial intelligence comes into the picture to overcome the loopholes of today's technologies. And hence it gives birth to technology that can do basic things like a human. Today the word AI on its boom and the study of futuristic technologies that must be discovered in this modern age.

INTRODUCTION TO ARTIFICIAL INTELLIGENCE

To reduce the execution time and processing of a large amount of data and recognizing patterns in the data. AI is discovered. Big companies like amazon, google, Microsoft, and Facebook uses this technology to recognize customer behavioural patterns to improve their revenue. Many space organizations like ISRO, NASA, and CNSA are using this latest technology. Even though if u look, we also use this technology every day and every bit of second. Many smartphone companies like Apple, Samsung, One plus, etc are using this AI-based technology to recognize the user pattern. What things the user likes the most. What thing he prefers when he angry. What things he prefers when he's sad or happy. The several AI based technologies are:

1. Driver less car
2. Automation factory's
3. Robotics
4. Machine learning
5. Big data

Are some of the technologies that are based on AI in the recent time phase. These technologies are the example of AI. That shows how machines work with zero percent error in the future and can be self-learn human behaviour. As you can see now most banks are using AI-based calling on IVR(interactive voice response). Example Kotak, Axis, HDFC etc. After Some years many companies use this technology to reduce their expenditure.

WORKING

Artificial intelligent based technology works via computing massive quantities of data with faster execution, iterative processing of data and intelligent algorithms, allowing the software program to study automatically from patterns or points in the data. AI is a large area of learn about that consists of many theories, strategies, and technologies, as nicely as the following fundamental subfields:

1. Machine learning: - machine learning is the application of AI which provide system ability to self-development and the method of works to execute the task by its own experience.
2. Neural network: -A neural network is the part of machine learning which provide system ability to think and perform some data like a human brain process.
3. Deep learning: - A deep learning requires massive neural network to process data and computing power to improve the technique to learn the complex large patterns and complex data in the system.

4. Internet of things: - it works by connecting sensors, software, and other physical hardware to sense the data and process that data for use.

These are some techniques that are used in AI to process complex data and make use of it to update the system's ability to think and perform data like a human brain works.

ADVANTAGES & DISADVANTAGES

Following are the advantages of AI-based technology:

1. Reduce error in the task: -As you can see humans make mistakes while they perform any task. Therefore, computers do not make mistakes if they are programmed properly.
2. Technology can work available 24/7: - In observation, it is noticed that humans require time for rest after working 9 to 10 hours. But in the case of the machine, it can be work 24hours without rest.
3. AI help human in case of repetitive jobs like driving, cleaning, cooking, etc
4. A daily application like Siri, Google Assistant, Alexa is the example of AI which are used in home automation technologies.
5. These technologies also use in the protection of important data for e.g:- google, apple, mi uses AI to optimize their cloud and security.
6. Also, after some time many manufacturing factories use Automation in their production.

Following are the disadvantages of AI-based technology:

1. When AI is used in major factories, then unemployment condition is caused.
2. As we can see technology is upgrading day by day and parallelly the cost of maintenance, repairing, upgradation of hardware is also high.
3. When we research and upgrade AI technology to an advanced level the human can't control that technology
4. Technology makes human lazy to think and perform the task.
5. Machine cannot think out of the box.
6. Machine don't have the power to think like human in this phase.

FUTURE RESEARCH

The future research of AI is done on these few aspects are as follows:

1. Transportation: - AI research help the transportation by driver-less car and other driver-less vehicles they are zero error based in driving tasks. And that prevent fewer accidents in road

2. Health care: - Research of AI in healthcare technology is very useful because AI is don't make an error while performing the task if humans program the system properly. Most Human doctors make mistakes while performing operations and the surgeries this number of errors becoming less as we compare with AI systems.
3. Education: - In the educational area the student gets a chance to learn the thing on practical basis by using AR(Augmented reality), VR (virtual reality), and the other
4. Media industry: - The media industry also gets in boom after covid-19 pandemic in the years 2020. They are now using 1080, 2k, and 4k quality pixels at this time. Assume that in the future they use AR and VR kind of technologies.
5. Customer service: - They use AI to communicate with us and resolve our problem that we occur in the system. E.g.:- Kotak Mahindra bank now using the basic auto chat IVR.
6. Construction industry: - In the future, we can construct our building and property by using 3d printing technology. It is fast and cost-effective.
7. Big Manufacturing hubs: - Manufacturing hubs like mobile, laptop, and accessories can use automation in their manufacturing units. it makes the product fast and cost-effective for companies.
8. Smart cities: - We can make living simple by using technology like
 1. Feeling the tank of the car.
 2. Order thinks online automatically.
 3. Make of electronic cars.
 4. Home robots.
 5. Electricity is free for humans.
 6. Internet is everywhere for human use.
9. Electricity industry: - In future the human can't face the technical error of electricity technologies like the present phase. We use a cost-effective method the can save our money in that time phase.
10. Space research: - We can clean the garbage of the space with the help of AI technologies and discover lots of things in space by using this technology.

These are some areas that begin research in the future to make this technology advance.

CONCLUSION

It is observed that artificial intelligence is rapidly growing in today's world from human to human-less mode of technologies. AI is the future of the tech world. But the fact that nobody opposes is that it takes most person basic the job like driver, chief, factory labours, etc. if it

comes to the major usage phase then. And create new job as well. AI also has the positive quality that it uses to pump-up the profit of most big and small companies that are using automation in their business. The AI is most impactful on medical, retailing, manufacturing, and banking. But also, there is a disadvantage for humans. They became lazy and their brain does not think creatively. Now the big challenge of scientists is that how they build a program of feeling in a machine because the machine does not have the feature to self-think and take the decision that is ethical in human-behaviour. There is a very big problem of AI is that suppose in the future if Artificial intelligence-based technology is used in the military then there is the impact caused by that technology we do not even think.

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SMART ANALYSIS OF WATER

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ABSTRACT

These days drinking water is the most precious and valuable for all the human beings, drinking water utilities faces advanced challenges in real time operation. These challenges appear because of limited water resources growing population, ageing infrastructure etc. Hence therefore there is a need of better methodologies to keep a check on the water quality. PH is a numeric scale used to recognize the acidity or basicity of an aqueous solution. The scale slide from 0 to 14. If it is detected lower on the scale, it is more acidic. If it is detected higher on the scale, it is more basic, or alkaline.

Traditional procedure of water quality involves the manual collection of water sample at different locations, followed by laboratory analytical methods in order the character the water quality. Although the current methodologies review the physical, chemical, and biological agents.

KEYWORDS: *Methodologies, pH Scale, Acidic, Basic.*

INTRODUCTION

PH is a measure of the hydrogen ion pH accurately as hydrogen ion $[H^+]$ participates in many chemical reactions with small changes in measured value corresponding to large changes in H^+ activity. This is because high pH value of water tends to form deposits which literally clogs pipes, change's reaction process etc. while the low pH water also have its own deleterious effects. This is because using poor water quality or water with the wrong pH in personal or healthcare can potentially be life threatening mainly when its effects on acid-base balance mechanism is considered.

Additionally, a general excess of alkalinity in the body may generate gastrointestinal issues and skin irritations. Absorbing excessively acidic or alkaline water is unhealthy, warns the Environmental Protection Agency (EPA). Too much high level of pH water (i.e. from 8-14 pH level) may also agitate the body's normal pH , leading to metabolic alkalosis, a condition that may produce the following symptoms:

- Nausea
- Vomiting
- muscle twitching
- confusion

OBJECTIVES

Whether in treating drinking water pH is essential. The pH of drinking water should be in range of 6.5 and 8.5. Low-pH drinking water can degrade pipes, give rise to toxic metals such as copper and lead to leach into the water supply. Water with a pH that is too high has an annoying taste, and the effectiveness of disinfectants such as chlorine is decreased.

The main objective of this is to provide a good drinking water, so that people can be safe and does not suffer from any diseases which are caused by bacteria in water.

In management of wastewater (e.g., sewage or industrial waste), pH is controlled so that proper chemical or microbial reactions will proceed as efficiently as possible. Operators carefully monitor and arrange pH to respond to changing chemical or microbiological conditions.

Problem Definition

Water with a low pH can be acidic, naturally soft and caustic. Acidic water can drain metals from pipes and fixtures, such as copper, lead and zinc. It can also harm metal pipes and give rise to aesthetic problems, such as a metallic or sour taste, laundry staining or blue-green stains in sinks and drains. Water with a low pH may contain metals in addition to the above-mentioned copper, lead and zinc.

Drinking water with a pH level above 8.5 indicates that a high amount of alkalinity minerals are present. Huge amount of alkalinity does not cause a health risk, but can cause aesthetic problems, such as an alkali taste to the water that makes coffee taste bitter; scale increase in plumbing; and lowered efficiency of electric water heaters.

Solutions

An acid neutralizing filter is generally the best treatment for water with low pH (acidic water). The most familiar material used to neutralize water is calcite. For very acidic water, think about adding a chemical feed pump to balance the water. Most frequently, soda ash is added to your water via the chemical feed pump. In situations with acidic water, we advise testing for lead and copper to avoid health issues.

Basic water is generally treated with a chemical feed pump to balance the water with an acid. When hard water is a problem, a water softener that treats water at the point of entrance in your home will correct water issues throughout your home.

PURPOSE AND SCOPE OF PROJECT

PURPOSE

Freshwater pH differs across the world depending on weather patterns, human activity, and natural processes. Water with a very low or high pH can be an indication of chemical or heavy metal pollution. Acidic water with a pH of less than 6.5 is more dangerous to be contaminated with pollutants, making it unsafe to drink. It can also corrode (dissolve) metal pipes.

Many municipal water suppliers voluntarily test the pH of their water to keep an eye on pollutants, which may be indicated by a changing pH. When pollutants are present, Water Corporation treats their water to make it safe to drink again. But if you notice that your valves and pipes have taken on a rusty red, white, or blue color, you might want to take steps on your own. This discoloration as well as any discoloration of your drinking water is an indication of corrosion caused by acidic water.

Corroded pipes should be investigated by a professional plumber and replaced if necessary. It's fairly simple and inexpensive to test the pH of your drinking water at home. All you need is a Smart Water Analysis kit

SCOPE

Due to automation, this model will reduce the time to check the parameters. This is economically affordable for common people. It has Low maintenance.

This system can be implemented in commercial and domestic use. It can also be used by Water supply agencies. Helpful For health department to identify the reason of water diseases.

We want to provide these facilities through our model:

- To give information to whole users those are depends on this model.
- Detecting additional parameters for most secure purpose.
- Increasing the parameters by adding multiple sensors.
- By interfacing relay, we adjust the supply of water.

CONCLUSION

Monitoring of Turbidity, PH & Temperature of Water utilize water detection sensor with unique advantage and existing GSM network. The system can keep track of water quality automatically, and it is low in cost and does not need people on duty. So the water quality testing is likely to be more economical, convenient and quick. The system has high standard flexibility. Only by restoring the corresponding sensors and changing the relevant software programs, this system can be used to monitor other water quality parameters. The operation is easy. The system can be

enlarging to monitor hydrologic, air pollution, industrial and agricultural production and so on. It has extensive application and extension value.

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USE OF ARTIFICIAL INTELLIGENCE IN HUMAN RESOURCE MANAGEMENT

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ABSTRACT

This paper explores the growing diffusion of Artificial Intelligence (AI) in Human Resource Management (HRM) and the continuing discussion on the projected rise in the usefulness of AI for employees in organizations. The research is an effort to recognize the important contribution of AI in improvising the corporate decision-making process for employees and promote the understanding for greater acceptability and participation of AI in the HRM department. AI in HRM not only saves time but also helps in making right decision, may it be employee recruitment, planning training sessions for them to make sure that a good employee does not even think of leaving the organization. It works on 3 principles – sustainable growth, retention & upgradation.

KEYWORDS: *Artificial Intelligence, HRM, decision making, Employee retention, upgradation.*

INTRODUCTION

Application of Artificial Intelligence in Human Resource Management is sometimes ignored but has enormous potential for organizations. Tech giants are also designing services to help employers enhance employee development and, as a result, employee retention. In a world where new talent is transforming employees twice as much as past generations, and where losing an employee will cost an organization up to 200 per cent of the annual pay of a person, employers need to be mindful of the business case for retention. This study covers how artificial intelligence can help recognize internal recruits and increase retention. It also focuses on studying the progress pattern of an employee and suggesting few training programs to improve their productivity.

USE OF AI IN HUMAN RESOURCES

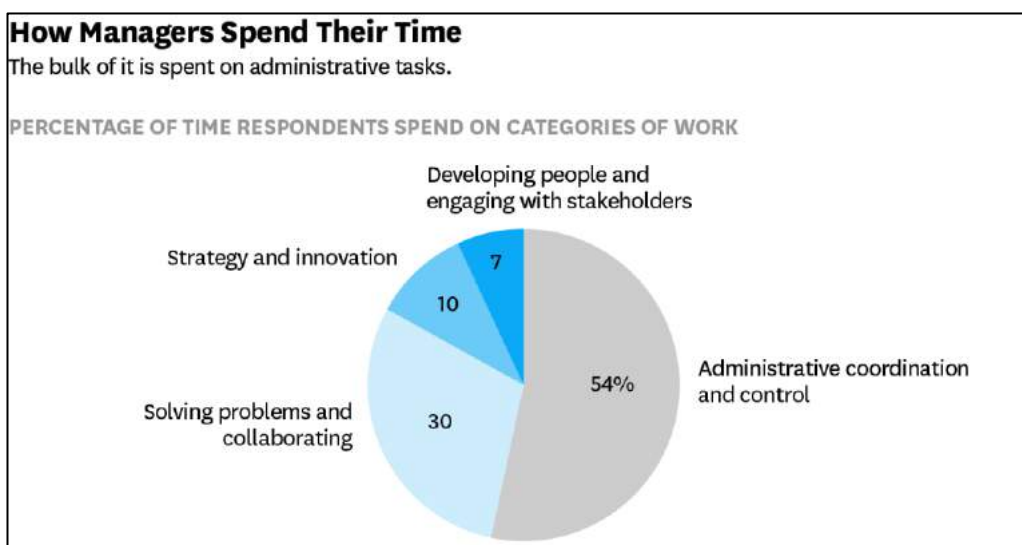
Artificial intelligence in human resources could be seen in:

- Elimination of administrative burden
- Recruitment

- Eliminating biasness
- Improving retention and organizational mobility
- Tailored training courses for employees

1. Elimination of administrative burden:

As businesses continue to realize that the success of a company is largely based on the people, HR leaders are increasingly required to participate in the strategic preparation at the corporate level. Unfortunately, the pressure of managerial duties will also keep back HR practitioners from serving. It's in this vital position, AI & Machine Learning may provide a solution to the problem.



Source: Accenture Survey of 1770 frontline,

Managers and leaders spend more than half of their time on administrative coordination and control activities. These are the same tasks that the same managers hope to see most influenced by AI.

Cost-benefit analysis should be performed to evaluate the feasibility of introducing AI applications for HR assistance in each organization. Senior leaders should also consider the additional advantage of using AI for logistical activities in terms of more freedom to enhance strategic planning.

2. Recruitment:

The conventional recruiting process involves human action. Starting with the end-sourcing of applicants, reviewing resumes, interviewing people, and making decisions on recruiting. The human decision-making mechanism is vulnerable to error due to shortcomings in rational reasoning. Smart scanning applications automatically screen the resume database through Machine Learning. Based on its results, tenure and revenue ratios, the program learns which applicants are active and ineffective workers. Primarily, it learns the backgrounds, expertise and

other characteristics of current staff and extends this information to potential hires, to rate, grade and pick the most effective candidates automatically. The program will also enrich the summaries of applicants by public information about their former employers and their social media accounts.

Modern technology in organizations aims to use AI to test candidates' words, speech patterns and body language, facial gestures to evaluate their fitness for their position.

Lastly, to help narrow down recruiting decisions, companies should consider using AI to determine what variables make an applicant successful.

3. Eliminating biasness:

Gender bias may influence recruiting and salary choices in several ways. As an implicit bias, it can be blamed for many of the problems that trigger gender pay gap, which is the imbalance between the wages received by women and men. As per the Monster Salary Index (MSI) issued in March 2019, women get paid 19 per cent less than men. The study indicates that the median gross hourly wage for men in India in 2018 was ₹242.49, compared with ₹196.3 for women, which means that men earned ₹46.19 more than women. The elimination of prejudices in recruiting and pay scale decisions is a crucial task for companies. Today, by reducing racial prejudice, AI is being used as a platform to prevent discrimination and encourage diversity.

4. Improving retention and organizational mobility:

Employee dismissal has a huge effect on businesses, affecting both expenses and efficiency. Machine learning algorithms will forecast the probability of the employee's dismissal. Technology firm Veriato has developed a range of AI platforms to classify flight risks among employees. Their program monitors and stores workers' electronic activities: emails, keystrokes, internet searching for a month. The AI system then evaluates the data to determine the standard benchmark of patterns of behaviour in the organization. Centred on this information, it flags outliers and sends them to the employer.

When the individual employee's "sentiment score" continues to stand out from the organization average, supervisors will move in to attempt to retain them. If correctly used, these tools can help workers avoid excessive turnover.

5. Tailored training courses for employee:

AI can be used to determine how to train an employee to its best by examining their habits also the way they accomplish their tasks. The whole scanning be done based on their submission of work, deadlines met, mistakes committed etc. The whole quality check can lead to their performance improvement by giving them options to join few courses or attend training programs which are conducted in-house. The programs can be right from communications to learning any technical skill or programming language. If an employee wishes to complete any certification or just browsing about certifications on internet, all these data can be captured and using Machine Learning can be used to organize or suggest courses, training program, self-development programs.

At a time when relentless digital disruptions are increasingly widening knowledge gaps, AI stands to deliver multiple advantages in the skills of its workers. Companies need to look at AI not only to recognize the skills deficiencies created by digital proliferation but also to help close them by recommending the appropriate skills and programs to workers. For businesses, this ensures a future-ready workforce, as it is a tremendous chance for workers to explore their jobs and professional growth and remain active in the coming years.

CONCLUSION

The use of AI is projected to expand with more reliable and more accessible technologies. This paper suggests that Artificial Intelligence & Machine Learning has the capacity to lower the organizational pressure on HR practitioners and to enable them to make choices based on established data patterns rather than on intuition. It should also be remembered that AI should not be regarded as a generic approach for all HR tasks. Companies should understand that the introduction of AI would not substitute human ability to make decisions. Human intervention is required to assess specific traits and to prevent considering people as metrics. As with any new technology, it will take some time to fix problems and optimize benefits.

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NEWSPAPER IN AUGMENTED REALITY

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ABSTRACT

Augmented Reality in which virtual content is seamlessly integrated with displays of the real-world scene is a growing area of interactive design. The upcoming trend in restaurant marketing, Augmented reality newspaper supplements existing news content. It is designed to improve customer experience and news interaction.

AR newspapers will allow customers to point their smartphone at any column to view additional interactive content. Augmented reality newspaper will provide easy access to essential information about news to improve the consumption for customers, and help newspapers come to life. AR newspapers can also be designed with a range of other features to enhance customer experience.

KEYWORDS: *Augmented Reality, Virtual Reality, Unity, Vuforia.*

INTRODUCTION

When augmented reality is mixed with newspapers, a photo in a news column is scanned with the camera of a smart phone. The AR software maps the photo and then loads related media content. The content is displayed on the screen using the camera view. It is often positioned over the scanned photo so that the digital content appears to have replaced the photo.

Although the content that is loaded is usually a video, there are many other possible outcomes. A gallery of images, the newest updates, or sport data, linked social media statistics, educational cartoons, additional facts, a local map, a restaurant menu, a game entry, or an advertisement page for a special event are all possible uses for a future newspaper AR. The printed document will come to life with augmented reality bridging the difference between physical and digital. It will allow individuals to see a video, animation, or other unexpected material that is located on a page of their newspaper.

SYSTEM DEFINITION

When it comes to Newspapers, the most prominent application of AR will be to introduce interactive elements into Papers to enhance the user's experience. Augmented Reality can help people highlight the local areas in the news and know more about their locality. Users can view a three-dimensional/video model of an object using dynamic contents. With playable videos and content there will be more graphic engagement and circularity of communication. Instead of reading all the articles in an indigenous manner, users can hear narrative of the text in the newspaper.

There will be active enjoyment with the new upcoming technology and multimedia contextual information and a growing adoption of Augmented Reality in mass media technologies

AUGMENTED REALITY TECHNOLOGY

Augmented Reality is a technology that improves the real world by affixing layers of digital markers and content onto it. is a handy tool for us as it helps us add virtual objects in the real world and view them with the help of our mobile display? Augmented reality allows us to get a new perspective on the things that we see and do daily.

The intention behind adding this digital information is to provide an engaging and interactive customer experience that is enabled with the input received from varied hardware like smart glasses, smart lens, and smart devices. Augmented reality adds digital elements to a live scenario by using the camera on a smart device. Examples of augmented reality experiences include Snapchat lens and the game Pokémon Go.

Unity :

Unity is a cross-platform IDE created by Unity Technologies, which is mainly used to develop both 3D and 2D games and simulations for computers, gaming devices, and smart devices. Unity is now a popular game engine for making VR and AR applications. Unity is an open-source software which is easy to implement and object oriented. It can be easily optimized for mobile phones and for 3D and 2D overlays. Compared to other platforms, Unity comes with a cheap license to use, has high functionality, it can be used by beginners and most importantly it has cross platform support.

Vuforia :

Vuforia Engine is a software platform for making Augmented Reality applications. Developers and programmers can easily add advanced functionality to any application, allowing it to map images and objects, and interact with spaces in the real-world scenario. Vuforia SDK is implementation in gaming and augmentation of a virtual world in the form of 2D and 3D object target types including 'marker less' Image. Vuforia provides Application Programming Interfaces (API) in C++, Java, Objective-C++ (a language utilizing a combination of C++ and Objective-C syntax), and the .NET languages through an extension to the Unity game engine. In

this way, the SDK supports both indigenous development for iOS and Android and it also facilitates the development of AR applications in Unity that are easily transferable to both platforms.

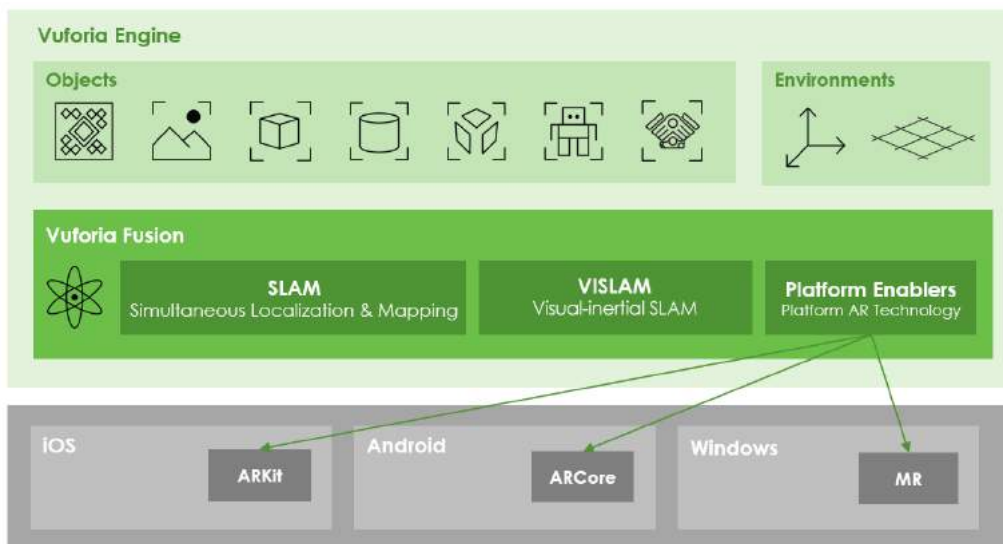
EQUATIONS, FIGURES AND TABLES

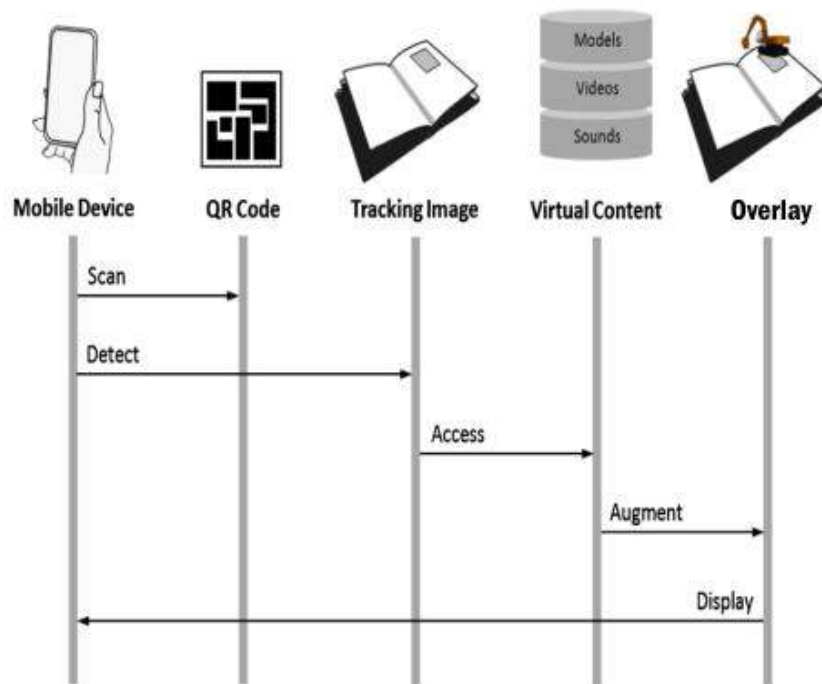
The project is on marker-based detection through which photo in an article is scanned with the camera of a mobile device. The AR software maps the photo and then loads associated digital content. The content is displayed in the device's camera view. It is often positioned over the scanned photo so that the digital content appears to have replaced the photo. Vuforia first identifies "feature points" in your target picture [target management] and then utilizes the information to compare the highlights in the target picture and the receiving case from camera.

Hardware	Software
Android device with a camera and supports AR Core	Android SDK
	Vuforia
	Unity 3D



OFFICIAL PARTNERS





CONCLUSION

AR is permitting the creativity to come out of the box and use the technology for advancement of the society. How different will it be to view the front cover and unexpectedly, a photo becomes a video and start illustrating a news column. This sounds so remarkable, to be able to see normal objects turn into three-dimensional model.

This idea is now used for the print and publication sector. Making object more enticing to the readers, AR is not only astounding the reader, but also creating the interest to know more.

The AR idea in Newspapers Technology is intended to shape the future of the publishing sector.

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GAMIFICATION WITH RETRO GAMING

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ABSTRACT

While finalizing what final year project we would be making, the one question we asked ourselves was “what is it that be both love doing and will never be bored working on?” as we both leapt out of your chairs and screamed “Gaming” and though struck my head, if a simple thought of gaming can make people like us so excited, what effect would actually playing these games have on us mentally. That is when we were introduced to the concept of Gamification. And with the sole purpose of making people subconsciously meet their own childhoods R.I.G.E (a Retro Inspired Gaming Experience) was born.

KEYWORDS: *GAMIFICATION, SUBCONCIOUS, RETRO GAMING.*

INTRODUCTION

Understanding Gamification:

The term ‘Gamification’ was coined back in 2002 by Nick Pelling, a British-born computer programmer and inventor, and hit the mainstream thanks to Foursquare in 2009.

Gamification is a modern way of teaching, which is used by companies. In this form of learning game mechanics are used to teach existing things to an employee mainly freshers, it motivates participation, engagement, and loyalty. This can be used in almost every way, from your website to social media presence, day-to-day operations, customer engagement and more. Gamification introduces game design elements into non-game applications to make them more fun and engaging. It uses competition, points, achievement, rules of play, status and self-expression to encourage actions through positive feedback. Generally, the process involves

taking a website, an enterprise application, an online community or an integrating game mechanics, the data-driven techniques that game designers use to engage players are having applications in the non-gamer experiences to motivate actions that add value directly or indirectly to the business.

Gamification in real life:

- Gamification is the usage of game-thinking and game mechanics in non-game scenarios such as business environment and processes, specifically in recruitment, training and development, and motivation to engage users and solve problems, as defined by Gartner Group.
- According to a Gallup research released in April 2012, less than one in 10 employees are 'engaged' in their jobs. The remaining are 'not engaged' (60 %) or are 'actively disengaged' (32 %) - the most harmful form of disengagement. The objective is to take techniques from game design and implement them in non-game contexts, so that the overall experience for the employee or 'user' is more engaging.
- Marriott, Cognizant, Deloitte, Aetna, and many more organizations are using gaming concepts to improve workforce alignment, enhance employee skills, solve complicated issues, and tap into new talent pools. Typical game design techniques consist of goal setting, competition, real-time feedback, and rewards. There are also platforms such as e-Mee and Mind Tickle that facilitate Gamification in organizations.

Advantages of gamification used to increase efficacy:

B.F. Skinner's Radical Behaviourism has claimed that human behaviours is a result of the effects of environmental reinforcements and learning. A lot of Skinner's research on reinforcement and operant conditioning can be applied to understand motivation in gamification. Gamification if applied in an organized manner can act as an aperture between the companies and educational institutes it also saves a lot of time, energy, and resources of the companies in the process.

Gamification in Recruitment & Selection Initiatives:

- Marriott International Inc. was an early implementer to testing gamification in the recruiting process the right people. It developed a hotel-themed online game like Farmville or The Sims, to acclimatize prospective employees with the Marriott as an organization, the company culture and the hotel industry.
- Anil Garg, VP-HR, Whirlpool, stated during the recent TimesJobs.com boardroom conference that they have been significantly using social media and gamification (cryptic puzzles) to engage prospective employees to keep the brand connect alive.

Gamification in Training & Development:

- The renowned Deloitte Leadership Academy, which has trained 10000+ executives from all over the world, delivers learning gamification through Badge Ville to increase knowledge sharing and brand development.
- TCS has also stepped in the world of gamification by implementing game engines that allow the creation of real-life environments with built-in networking features, enabling the development of such Massively Multiplayer Online Role-Playing Games (MMORPG).

Gamification in Engagement & Retention Strategies:

- Accenture is using the gamification tools for employee engagement and workplace behaviour modification.
- The World Bank's Evoke is a social collaboration game for solving social problems. A very promising area of engagement and retention where gamification can be implemented is employee wellness.
- Mind bloom's Life Game being utilized by Aetna, is a freemium online social game aimed at improving employee health and wellness by encouraging interactions with a metaphorical "self". Users can keep a check on their healthy by choosing and developing plans to foster wellness.

Applying the concept of Gamification with Retro games:

- According to Dr. Clay Routledge, Social Psychologist and Associate Professor of Psychology at North Dakota State University, nostalgia "increases positive mood, self-esteem, feelings of social connectedness, optimism about the future, and perceptions of meaning in life.
- Retro Games that people have played in their childhood can trigger nostalgia. As a result, anybody can pick up these games and have a good time.
- Most modern gaming titles require a certain level of skill which can only be achieved with long hours of practice making the experience more competitive than enjoyable unlike older titles where most people who have already played these games have muscle memory and can get up to speed in minutes.
- Older titles are also a lot less complex with limited in-game mechanics due to the limitation in technology. This makes it easier for novices to get up to speed with the games.

Introduction to RIGE (a Retro Inspired gaming Experience)

- RIGE is a portable handheld gaming device based on a Raspberry Pie 4 that can run retro gaming systems like NES, SNES, Atari 2600, Gameboy, GBA, N64, Sega Dreamcast, Sony Play Station, PSP, Nintendo GameCube, Nintendo Wii, and many more with the power of Software Emulation.
- All you must do to play any game from any of these systems is to load the ROM file of the game from any external removable device or the device itself using Samba.

The device runs on a custom-built distribution of Linux which facilitates the use of the emulators that will allow the user to run the games.

- The user can immerse themselves in the games and content on the 5-inch 800x480p LCD display.
- No need to worry about finicky touch controls, with the RIGE you can enjoy your titles with a full game pad with L and R trigger buttons and a physical D pad. Also, to add a modern touch you can also use the inbuilt gyroscope to play racing games with at most precision and feel every action with its stereo speakers and haptic feedback motors.
- Play on the go the whole day with its 5000mah lithium-ion battery and its compact comfortable design thanks to its light yet sturdy polycarbonate body.
- Connect to the internet with WIFI. Also connect multiple audio devices and controllers with Bluetooth v5.0.
- RIGE runs on a custom-built lightweight OS called RetroOS based on Debian (Linux)

METHODOLOGY

In the development of RIGE the “Prototype Model” is being used so as to implement more and more user experiences into the system. As of now the device is on Prototype 2 Stage.

We first conducted a survey with a test group of 100 people from various backgrounds to clearly understand the effects of nostalgia caused by Old games they might have played in their past.

Google form link:

https://docs.google.com/forms/d/e/1FAIpQLSf8ZfRzmY5r_4p_1DsMD7JR39rDQmCZxCfb8Uz2LGuHe69_pQ/viewform?usp=sf_link

Prototype 1: Understanding the Hardware and Software requirements.

For building the first prototype we decided to emulate the system on a PC to measure out the hardware and software requirements. We formulated these requirements with the help of a survey:

Google form link: https://docs.google.com/forms/d/e/1FAIpQLSdZVI7tme53Mi1-vR_vXgb453ftYu-UqDaTbpxh1ngrA7aSUA/viewform

In this survey we asked 100 people about all the older systems and games they were familiar with to create a testbench to create RIGE on.

After compiling the data, we created a test Linux based software that could run all the system emulators and tested all of them with a few games. This gave us a performance benchmark which would allow us to finalize the Hardware Requirements.

Prototype 2: Implementing Final Software with the proposed Hardware requirements from Prototype 1.

Hardware Requirements:

Raspberry pie 4 B+

5 inch 800*480 resolution, back lit, bus/GPIO powered, HDMI screen.

5,000mah battery pack.

Controller

Copper Heat Sinks.

Software Requirements:

LINUX (DEBIAN):

Is the base operating system on which the emulation kernels will be added to, Debian is one of the oldest operating systems based on the Linux kernel? The project is coordinated over the Internet by a team of volunteers guided by the Debian Project Leader and three foundational documents: the Debian Social Contract, the Debian Constitution, and the Debian Free Software Guidelines. New distributions are updated continually, and the next candidate is released after a time-based freeze. Since its founding, Debian has been developed openly and distributed freely according to the principles of the GNU Project. Because of this, the Free Software Foundation sponsored the project from November 1994 to November 1995. When the sponsorship ended, the Debian Project formed the non-profit organization Software in the Public Interest to continue financially supporting development.

RETROARCH:

RetroArch is a free, open-source and cross-platform front-end for emulators, game engines, video games, media players and other applications. It is the reference implementation of the libretro API, designed to be fast, lightweight, portable and without dependencies. It is licensed under the GNU GPLv3.

RetroArch runs programs converted into dynamic libraries called libretro cores, using several user interfaces such as command-line interface, a few graphical user interfaces (GUI) optimized for gamepads (the most famous one being called XMB, a clone of Sony's XMB), several input, audio and video drivers, plus other sophisticated features like dynamic rate control, audio filters, multi-pass shaders, netplay, gameplay rewinding, cheats, etc.

RetroArch has been ported to many platforms. It can run on several PC operating systems (Windows, macOS, Linux), home consoles (PlayStation 3, Xbox 360, Wii U, etc.), handheld consoles (PlayStation Vita, Nintendo 3DS, etc.), on smartphones (Android, iOS, etc.), single-board computers (Raspberry Pi, ODROID, etc.) and even on web browsers by using the Emscripten compiler.

EMULATIONSTATION:

Emulation Station is the official graphical frontend of the RetroPie project. Emulation Station is not an emulator, rather it is a polished game launcher that includes: Controller and keyboard support. Custom themes. Scraper for box art and game metadata. This will be used to create a custom-made frontend for RIGE.

RETROPIE

RetroPie allows you to turn your Raspberry Pi or PC into a retro-gaming machine. It builds upon Raspbian, Emulation Station, Retro Arch and many other projects to enable you to play your favourite Arcade, home-console, and classic PC games with the minimum set-up. For power users it also provides a large variety of configuration tools to customise the system as you want. RetroPie sits on top of a full OS, so in our case we installed this on top our Debian OS. After making the prototype 2, we decided that to understand all the shortcomings and positives of the device we had to approach industry experts (Professional Esports gamers, Profession Game developers and Fulltime Hobby gamers). So, with a test group of 50, we showed each one of them RIGE prototype 1 and asked them to use the device for some time and give us their feedback which we compiled in the below mentioned google form:

Google form

link: https://docs.google.com/forms/d/e/1FAIpQLSfqr7GSP9UdXgFOU45L5XW_GaQQJehZU2yAyCDhto-UJfCQw/viewform?usp=sf_link

FINDINGS AND ANALYSIS

The findings of the researched proved the following things-

Survey 1:

- Nostalgia does have a positive impact on people.
- The survey indicated that a few breaks of retro gaming triggers nostalgia between their day everyday occupation and is a refreshing distraction.
- Students stated that older puzzle-based games made their minds sharper and allowed them to improve their concentration.
- Creative Freelancer stated that indulging in these distractions made their minds susceptible to new fresh ideas and made work a whole lot more fun.
- Corporate Job holders were the most effected by nostalgia as older games reminded them of their childhood and made them forget for a while about their current stresses and Adult responsibilities.
- Therefor it is safe to say that Gamification can play a pivotal role reducing stress, anxiety and depression in the workplace and in ones personal life.

Survey 2:

- Gave us a clear understanding of our target demographic's tase in video games.

- It also told us what gaming systems were popular in different regions of the world
- It told us what devices we MUST include in our system.

Survey 3:

- Gave us a clear understanding of everything good and bad about our system.
- Highlighted the lack of optimization and performance in some emulated systems.
- Allowed us to finally understand how the Prototype 3's form factor would look like.

LIMITATION OF STUDY

- Time Constraints of Research and Research personal
- Not enough prototypes to send out for review.
- Inconsistency in data (target demographic)

CONCLUSION

With the rise in cases of anxiety, work pressure, depression, etc. A form of stress relieve mechanism is a must. Especially in corporates where mandated long working hours make the work environment very stressful, so any way to relieve the employees stress most welcome. Gamification of the workspace by implementing the use of retro games is a great opportunity to involve more and more employees in this activity because of the nostalgia factor.

The main reason for us to do this project is to find out more and more use cases/ potential markets for the sale of RIGE (to make it more appealing for future investors) and thus keeping that in mind these are the following conclusions we came to:

- The target age demographic of gaming is a lot wider than we anticipated, the only limitation was that a more mature audience is less likely to indulge in modern games because of the learning curve and complexity. However, if the games have a “pick up and play” style like classic takken/mortal combat, mario kart, tetris, etc. they are more willing to indulge themselves into gaming regardless of the nostalgia factor.
- When the nostalgia factor does kick in, even the younger audience who already play modern competitive games enjoy the older titles.
- This amazing level of interest can be implemented in corporate gamification programs which will in turn significantly improve the work environment.

Therefor with the help of this study we can safely say that apart from targeting the sale of RIGE to individual, it can also be pitched towards corporates to create a game center in their offices which can act as a temporary retreat from work.

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Students' Grievance Support System

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ABSTRACT

The purpose of this project is to provide optimised solutions for the student grievances. The proposed model for the student complaint management system will have ability to minimize student's dissatisfaction we try to improve the relationship between student and university by presenting the model of e-complaint web-based system This system will give solution to the student's grievances. The existing system has manual processing through committee, principal, concerned departments and AICTE. The proposed system had capable to complete the process automatically by using our application.

A grievance is a discontent or dispute which could arise at any level in any organization. If the organization is an academic institution, then this issue becomes more sensitive and important. Students are the most vulnerable entities at educational institutions often fail to express and sometimes fail to seek proper support for the issues they face arising at numerous levels. This paper puts deep insight into incorporating all those problem areas which were found on the basis of the analysis phase plus some additional necessary areas.

INTRODUCTION

In these days of increasing internal conflicts, an effective student grievance redressal system is necessary for every educational institution to address the complaints of students. Grievances in educational institutions may adversely affect the morale, productivity and willingness of the students to co-operate with the institution.

Students' Grievance Support System will provide an online platform to receive and act on complaints reported by students of a particular institution, enabling prompt actions on any issue raised by them and to avail services more effectively. Students' Grievance Support System can be handled directly by the institute through their own website. Also the smart web portal for grievance processing connects students and action-takers directly through online platform. It is an easy access application, accessible to students, members of Student Grievance Redressal Committees, respective heads. Students would be able to post complaints under different categories, Department Level, College Level and University Level.

OBJECTIVES

The main objective of this web application is for students to be comfortable enough to report their problems on an online platform without any hesitation and as surity that their problems would be acknowledged and taken care of.

- This project will be useful for the students as they are the ones stating their grievances.
- This project can be implemented by colleges and various education institutes to make sure their students are getting what they need.
- Bridging the gap between the students and the authorities by serving the appropriate actions.
- This web application would ensure active monitoring of grievances.
- Helping to empower students by giving them a fair chance by reporting their grievances.
- To support, those students who have been deprived of certain services offered by the College, for which he/she is entitled.
- To make officials of the College responsive, accountable and courteous in dealing with the students.
- To ensure effective solution to the student's grievances with an impartial and fair approach.

SURVEY OF TECHNOLOGY

Existing System:

The current system is dealing on the manual basis. Students have to go directly to the concerned departments to give their complaint. It needs huge amount of paper work to maintain the complaint details. A huge expenditure and lots of time is spent in the existing system. Tracking and retrieving of data from bulk of papers is a difficult process.

Proposed System:

The proposed system is an online web application. This system is proposed to control and avoid the limitations of the existing system. The goal of proposed system is to increase the efficiency by speeding up the process and bringing down the work load. It also overcomes the huge expense that is obtained in the existing system. The major activities of this Grievance system are to receive various types of grievance from students, provide speedy processing of grievance received, updating the status of complaint, informing the students about the action taken and generating reports.

Technologies:

Hardware: -

- The hardware is easily available.

- Computer/Laptop:4 GHz minimum, multi-core processor.
- Memory (RAM):4GB at least.
- Hard disk space:10GB at least.

Software: -

- OS
- HTML
- CSS
- Django
- Python
- JavaScript
- Visual Studio Code

RESULTS&CONCLUSION

The main aim of the Public Grievance Redressal System is to provide a better solution to the people who want to submit their complaints to the authorities. This system reduces the time consumed to complete the complaint redressal process. Instead of going directly to the government departments and meeting face to face, people can make the complaint submission faster through online. This application is created in a simple user interface and in a user-friendly manner. This software system promises to process in a faster way. The system is simple, efficient and supports future enhancement facility.

This project is an attempt to highlight the fact that there are hardly such systems prevailing curtailing to the complaint redressed for students enrolled in numerous organizations. This project has demonstrated a proposed Grievance System for the grievance redressed of students covering various domains of complaints which could be lodged easily and thus leading to easy and sure solutions or redressed to the problems being faced by a student on a regular basis. The technologies used comprise of HTML and CSS to design a user-friendly graphical user interface, Django, Python to keep track of the records at the back end. This system would be suitable for any organization for the resolution of complaints and thus lead to a qualitative and quantitative development of the organization.

The grievance procedure is a machinery to sort out the issues between student and college. It is a means by which a student who believe that, he / she has been treated unfairly with respect to his / her academic / administrative affairs or is convinced to be discriminated is redressed. It is a device to settle a problem. It enables to express feelings by initiating and pursuing the grievance procedure in accordance with the rules and regulations of the college. It involves a process of investigation in which ‘Student’s Grievance Cell’ enquires and analyses the nature and pattern of the grievances in a strictly confidential manner. Matters are disclosed to only those, who have a legitimate role in resolving the matter. Emphasis on procedural fairness has been given with a view to “the right to be heard and right to be treated without bias”.

This project desires to promote and maintain a conducive and unprejudiced educational environment. The objectives of this project include-To support, those students who have been deprived of the services offered by the College, for which he/she is entitled. To make officials of the College responsive, accountable and courteous in dealing with the students. To ensure effective solution to the student's grievances with an impartial and fair approach. The Cell enables a student to express feelings by initiating and pursuing the grievance procedure in accordance with the rules and regulations of the College.Redressal of Students' Grievances to solve their academic and administrative problems. To co-ordinate between students and Departments to redress the grievances. To guide ways and means to the students to redress their problems.

The mechanism for online registration and disposal of grievances enables a complainant to express feelings by initiating and pursuing the grievance procedure in accordance with the rules and regulations of the institution. The main advantage of the portal is to prevent unfair practices in higher education institutions and provide effective mechanism for redressal of the grievances. It also helps the grievance cell member to enquire and analyse grievance in a strictly confidential yet transparent manner.

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5G WIRELESS COMMUNICATION SYSTEM

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ABSTRACT

Everybody loves speed and moreover speedy internet, so it's no surprise that every major telecom in the world is working to make it even faster. Smartphone's, watches, homes, and cars are increasingly requiring stable internet connections. In order to survive in the world where in every second the speed changes and where we urge for more and more technology, here comes the fifth-generation technology: 5G. In future, i.e., a world beyond 4G, some of the prime objectives that need to be fulfilled are increased capacity, improved data rate, decreased latency, and quality service. To meet these demands, large scale improvement in the cellular architecture of 5G is required. This paper basically lays emphasis on the 5th generation i.e. 5G cellular network architecture and some of the essential emerging technologies that can prove fruitful in humanizing the architecture and summing the demands of users. This paper is contented with the details related to 5g with the prime focus on the massive multiple input multiple output technology and device-to-device communication (D2D). A general credible 5G cellular network architecture is being proposed with the guideline taken from the internet books and by the detailed study of the topic.

KEYWORDS: *5G, D2D, cloud, latency.*

INTRODUCTION

The "G" in 5G stands for "generation." and 5 is the advancement denoted through a number. Wireless phone technology technically entered with 1G, and in the early 1990s it upgraded to 2G when companies enabled people to send text messages between two cellular devices which fascinated the world. Eventually the world moved on to 3G, which imparted the liberation of making phone calls, send text messages, and browse the internet at excellent speed.4G enhanced many of the capabilities that were made possible only with the third generation of wireless. People could browse the web at lights speed, send text messages, and

can make phone calls and they could even download and upload large video files without any issues and without long waiting. Then companies added LTE, abbr. for “long term evolution,” to 4G connectivity. LTE became the fastest and most consistent variety of 4G and it started competing with the technologies like WiMax in the market. Both technologies resulted in similar outcomes, but it was vital to create a standard for everyone to use. LTE did just that, by making 4G technology even faster and this laid the foundation of 5G. 5G will make it easier for people to download and upload Ultra HD and 3D video. So we can say that there is advancement in the speed of living.

5G Technology stands for 5th Generation Mobile Technology. 5G technology has changed to use cell phones within very high bandwidth. 5G is a packet switched wireless system with wide area coverage and high throughput. 5G technologies use CDMA (Code Division Multiple Access) and BDMA(Beam Division Multiple Access) and millimetre wireless that enables speed is greater than 100Mbps at full mobility and higher than 1Gbps at low mobility. The 5G technologies include all types of advanced features which make 5G technology most powerful and in huge demand in the near future. It is not amazing, such a huge collection of technology being integrated into a small device.

OBJECTIVE

The 5G technology is expected to provide a new (much wider than the previous one) frequency bands along with the wider spectral bandwidth per frequency channel. As of now, the predecessors (generations) mobile technologies have evidenced substantial increase in peak bitrate. Then — how is 5G different from the previous one (especially 4G)? The answer is — it is not only the increase in bitrate made 5G distinct from the 4G, but rather 5G is also advanced in terms of –

- High increased peak bit rate
- Larger data volume per unit area (i.e. high system spectral efficiency)
- High capacity to allow more devices connectivity concurrently and instantaneously.
- Lower battery consumption
- Better connectivity irrespective of the geographic region, in which you are
- Larger number of supporting devices
- Lower cost of infrastructural development
- Higher reliability of the communications

As researchers say, with the wide range of bandwidth radio channels, it is able to support the speed up to 10 Gbps, the 5G Wi-Fi technology will offer contiguous and consistent coverage – “wider area mobility in true sense.”

SCOPE OF STUDY

There’s no shortage of speculation related to the advent of 5G – the next generation of mobile network technology with speeds at least 10 times greater than today’s 4G networks. In the meantime, though, most of the speculation in the business, trade and popular press has focused

on 5G's potential benefits to consumers. But this emphasis on consumer goods and services seems to be misplaced; consumer demand alone is unlikely to ever justify the huge cost of building out a 5G system. This is because the speed and capacity of 5G is so great it will far exceed the capabilities of most consumer devices it's connected to. For example, next-generation 5G-enabled TV will be able to deliver many times more pixels than today's HD or even 4K TVs.

Something similar may be happening in the world of mobile phones, where various makers are on the cusp of introducing their own 5G units. Using current 4G technology, it takes several minutes to download a feature film. With 5G, the time would be reduced to several seconds. While the difference perceived by the user might not be so compelling, the only way today's networks can scale to the massive amounts of mobile data is by embracing more efficient and faster throughput systems. The cost of building the 5G network infrastructure cannot be rationalized just by the consumer smartphone use case alone. In my view, the network operators are building information superhighways needed for tomorrow's digital economy.

5G's impact on the industrial internet of things (IIoT), is expected to result from a combination of its high data rates, reduced latency, energy savings, cost reductions and higher system capacity. Its ability to capture vast amounts of data from remote sensors and other connected devices, and then to transfer that information into data centres where artificial intelligence and machine learning can be applied, will likely supercharge business. Jet turbines, wind turbines, locomotives and railways, quarrying tools and heavy machinery, all reside in the IIoT space. 5G sensors connected to these systems will enable faster and better-informed business decisions. The combination of artificial intelligence, machine learning and 5G form the technical foundation for mixed reality, digital twins and IIoT. They help bring to life the promised outcomes of advanced technologies including autonomous vehicles, very smart homes, connected health care, digital agriculture and much, much more. They are also driving changes in the way we manage IT.

While 5G may, in fact, enrich the experience for certain business to consumer (B2C) applications, its biggest impact will be on the commercial world. There, it will enable new insights, efficiencies, innovations and IIoT uses which are simply unavailable with today's 4G. 5G will change how we think about connectivity for the home, the enterprise and the way business gets done in just about every sector.

So where are those high-potential markets?

- **Health care:** Hospitals will not only be able to remotely diagnose a patient's complaints, but they will also have the ability to remotely perform surgeries and other hands-on procedures using digital avatars.
- **Environment:** Connected devices will transform data on weather conditions, plant health, crop health, moisture, mineral and chemical levels, pest presence and more, affecting labor allocation, cost management, waste reduction and yield.

• **Smart buildings:** Automated control to every building system including HVAC, lighting, fire, security, energy and water use by combining data from multiple structures and systems will heavily depend on 5G.

• **Manufacturing:** Industry 4.0 and end-to-end automation using IIoT, are tremendously promising areas of 5G application.

• **Smart cities:** IoT sensors will monitor and collect data on everything from air quality, to energy use, to traffic patterns. 5G will be able to use artificial intelligence to analyze the massive amounts of data being collected to automate processes that are currently done manually.

• **Transportation:** The march toward self-driving vehicles is already well underway. The ability to communicate in real-time with other nearby vehicles and with fixed roadway infrastructure will be essential to its success, and 5G will be embedded in all of them.

5G is destined to be huge — profoundly impacting every human activity. It will accelerate innovation, connect communities, and help secure our world.

METHODOLOGY

Drastic changes in the policy of designing the 5G wireless cellular architecture is needed to meet the difficulty of the user and to triumph over the challenges that have been put forward in the 5G system. In attendance wireless cellular architecture, for a mobile user to get connected or to communicate whether inside or outside, an outside base station is always present in the middle of a cell which helps in communication. The signals have to travel through the walls of the indoors, in providing communication between inside and outside base station which will result in very high penetration loss, along with the correspondingly costs with reduced spectral effectively, data rate, and energy competency of wireless communications. To tackle this obstacle, a new idea for designing the 5G cellular architecture has come into existence i.e. to distinct the outside and inside setups. .With the help of this designing technique, the loss due to the penetration through the walls of the building will be to some extent reduced. This scheme or we can say that this plan will be supported with the help of massive MIMO technology, in which the dispersed array of antenna's are deployed geographically, which consists of many small units or it is made up of tens or hundreds of antenna units. Since at present MIMO systems are using either two or four antennas, but the idea of massive MIMO systems which has been introduced mainly lays emphasis on the utilizing the advantages of large array antenna elements in terms of huge aptitude gains. To erect or construct a large massive MIMO network, firstly we have to fit the outside base stations with hefty antenna arrays and among them some are discrete around the hexagonal cell and connected to the base station through the fastest cables i.e. optical fibre cables, mainly aided with gigantic MIMO technologies. The mobile users which are present outside usually contains certain number of antenna fitted in it but with collaboration, a large reel antenna array can be erected, which jointly with antenna arrays of base station form practical massive MIMO links. Secondly, we have installed every building

with big antenna arrays from outside, for establishing communication with outdoor base stations with the help of line-of-sight components. The wireless access points which are there inside the building are associated or we can say connected with the giant antenna arrays through cables for communicating with users present indoor. This will significantly lead to the improvement in the energy efficiency, cell average output, data rates, and spectral competency or efficiency of the cellular system but at the outlay of amplified i.e. huge and levelled infrastructure cost. With the introduction of such architecture and such a advanced plan, the inside users will only have to connect or communicate within wireless access points while huge erected antenna arrays remained installed outside the buildings. For the communication which has to be established inside i.e. for indoor communication, certain technologies like Wi-Fi, Small cell, ultra wideband, millimetre wave communications, and visible light communication (VLC) proves helpful for little range communications having great data rates. However technologies similar to millimeter wave and visible light communication (VLC) are utilizing higher frequencies which are not typically used for cellular communications. But it is not a proficient idea to use these high frequency waves for outside and also for long distance applications. Millimeter waves and visible light communications technologies can develop the transmission data rate for indoor setups because they have come up with large bandwidth. As we know that the 5G wireless cellular network architecture mainly comprises of only two logical layers i.e.

- A radio network.
- Network cloud.

FINDINGS

This paper mainly focuses on how a 5G network can provide more facilities approach to a common man to utilize his available possessions in an enormous way to make him to feel the real progress. As a user point of view, the major difference between current generations and expected 5G techniques must be something else than increased maximum throughput; other requirements include

- It could make better revenue for current global operators as well as interoperability will become more feasible.
- Improved and innovative data coding and modulation techniques, which includes filter bank multi carrier way in schemes.
- For wireless access and back haul use of millimetre wave frequencies is very useful.
- With the support of different conduction points with related coverage and surrounding the option of a supple usage of resources for up link and down link transmission in each cell is achieved by superior intrusion and mobility management.
- To make 5G practical for all sorts of radio access technologies there should be a common platform unique for all the technologies.
- Lower battery consumption.
- Lower outage probability.
- Better coverage and high data rates available at cell edge.

- High resolution and bi-directional large bandwidth shaping.
- Technology to gather all networks on one platform.
- More effective and efficient.
- Technology to facilitate subscriber supervision tools for the quick action.
- Most likely, will provide a huge broadcasting data (in Gigabit), which will support more than 60,000 connections.
- Easily manageable with the previous generations.
- Technological sound to support heterogeneous services (including private network).
- Possible to provide uniform, uninterrupted, and consistent connectivity across the world.

Disadvantages of 5G Technology:

Though, 5G technology is researched and conceptualized to solve all radio signal problems and hardship of mobile world, but because of some security reason and lack of technological advancement in most of the geographic regions, it has following shortcomings –

- Technology is still under process and research on its viability is going on.
- The speed, this technology is claiming seems difficult to achieve (in future, it might be) because of the incompetent technological support in most parts of the world.
- Many of the old devices would not be competent to 5G, hence, all of them need to be replaced with new one — expensive deal.
- Developing infrastructure needs high cost.
- Security and privacy issue yet to be solved.

5G - Challenges

Challenges are the inherent part of the new development; so, like all technologies, 5G has also big challenges to deal with. As we see past i.e. development of radio technology, we find very fast growth. Starting from 1G to 5G, the journey is merely of about 40 years old (Considering 1G in 1980s and 5G in 2020s). However, in this journey, the common challenges that we observed are lack of infrastructure, research methodology, and cost.

Still, there are dozens of countries using 2G and 3G technologies and don't know even about 4G, in such a condition, the most significant questions in everyone's mind are –

- **How far will 5G be viable?**
- **Will it be the technology of some of the developed countries or developing countries will also get benefit of this?**

To understand these questions, the challenges of 5G are categorized into the following two headings –

- Technological Challenges
- Common Challenges

Technological Challenges

- Inter-cell Interference – This is one of the major technological issues that need to be solved. There is variations in size of traditional macro cells and concurrent small cells that will lead to interference.
- Efficient Medium Access Control – In a situation, where dense deployment of access points and user terminals are required, the user throughput will be low, latency will be high, and hotspots will not be competent to cellular technology to provide high throughput. It needs to be researched properly to optimize the technology.
- Traffic Management – In comparison to the traditional human to human traffic in cellular networks, a great number of Machine to Machine (M2M) devices in a cell may cause serious system challenges i.e. radio access network (RAN) challenges, which will cause overload and congestion.

Common Challenges:

- Multiple Services – Unlike other radio signal services, 5G would have a huge task to offer services to heterogeneous networks, technologies, and devices operating in different geographic regions. So, the challenge is of standardization to provide dynamic, universal, user-centric, and data-rich wireless services to fulfil the high expectation of people.
- Infrastructure – Researchers are facing technological challenges of standardization and application of 5G services.
- Communication, Navigation, & Sensing – These services largely depend upon the availability of radio spectrum, through which signals are transmitted. Though 5G technology has strong computational power to process the huge volume of data coming from different and distinct sources, but it needs larger infrastructure support.
- Security and Privacy – This is one of the most important challenges that 5G needs to ensure the protection of personal data. 5G will have to define the uncertainties related to security threats including trust, privacy, Cybersecurity, which are growing across the globe.
- Legislation of Cyberlaw – Cybercrime and other fraud may also increase with the high speed and ubiquitous 5G technology. Therefore, legislation of the Cyberlaw is also an imperative issue, which largely is governmental and political (national as well as international issue) in nature.

FUTURE SCOPE

5th generation technology is designed to provide incredible and remarkable data capabilities, unhindered call volumes, and immeasurable data broadcast within the latest mobile operating system. Hence, it is more intelligent technology, which will interconnect the entire world without limits. Likewise, our world would have universal and uninterrupted access to information, communication, and entertainment that will open a new dimension to our lives and will change our lifestyle meaningfully.

Moreover, governments and regulators can use this technology as an opportunity for the good governance and can create healthier environments, which will definitely encourage continuing investment in 5G, the next generation technology.

5G network technology will reveal a new era in mobile communication technology. The 5G mobile phones will have access to different wireless technologies at the same time and the terminal should be able to combine different flows from different technologies. 5G technology offer high resolution for crazy cell phone user. 5G technology will provide supper and perfect utilization of cellular communication in future. We can monitor any place of the world from anywhere, observe space and watch TV channels at HD clarity in our mobile phones without any interruption. There will be exciting amusement unbelievable services. The 5G mobile phones will be a tablet PC and amazing. Many mobile embedded technologies will evolve.

CONCLUSIONS

In this paper, we conclude that 5G network is very fast and reliable. Fifth generation is based on 4G technologies. The 5th wireless mobile internet networks are real wireless world which shall be supported by LAS-CDMA (Large Area Synchronized Code-Division Multiple Access), OFDM (Orthogonal frequency-division multiplexing), MCCDMA (Multi-Carrier Code Division Multiple Access), UWB (Ultra-wideband), Network-LMDS (Local Multipoint Distribution Service), and IPv6. Fifth generation technologies offers tremendous data capabilities and unrestricted call volumes and infinite data broadcast together within latest mobile operating system. Fifth generation should make an important difference and add more services and benefits to the world over 4G. Fifth generation should be more intelligent technology that interconnects the entire world without limits. This generation is expected to be released around 2020. The world of universal, uninterrupted access to information, entertainment and communication will open new dimension to our lives and change our lifestyle significantly.

A detailed survey has been done on the performance requirements of 5G wireless cellular communication systems that have been defined in terms of capacity, data rate, spectral efficiency, latency, energy efficiency, and Quality of service. 5G wireless network architecture has been explained in this paper with massive MIMO technology, network function virtualization (NFV) cloud and device to device communication. Certain short range communication technologies, like Wi-Fi, Small cell, Visible light communication, and millimeter wave communication technologies, has been explained, which provides a promising future in terms of better quality and increased data rate for inside users and at the equivalent

time reduces the pressure from the outside base stations. Some key emerging technologies have also been discussed that can be used in 5G wireless systems to fulfil the probable performance desires, like massive MIMO and Device to Device communication in particular and interference management, spectrum sharing with cognitive radio, ultra-dense networks, multi radio access technology, full duplex radios, millimeter wave communication and Cloud Technologies in general with radio access networks and software defined networks.

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MEDICAL ASSISTANCE THROUGH ANDROID APP

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ABSTRACT

In times like this when the world was overwhelmed by the global pandemic of the coronavirus, we have realized the importance of self-care, hygiene, following Covid news about other government guidelines, and taking special care of our mental and physical health. Our project Personal well-being app aims to aid, direction, news, and help to our target audience and ensure they have an easy time inquiring and searching for medical information.

The various ways in which this app can help a user is by providing important information about the pandemic and various other information about the centers and hospitals in the closest vicinity.

It is an app with an easy-to-use interface where the user can be assisted on a personal level through his smartphone, by providing users with resources for personal health and mainly their mental health. To ease out the process of finding the nearest healthcare center and its contact details.

KEYWORDS: *Personal well-being, mental health, physical health, healthcare centers, Covid news.*

INTRODUCTION

In this modern era and fast-paced world, no one has time for themselves for real, due to this pandemic we came to know the importance of self-care unless we are not healthy, we cannot build a healthy environment for the upcoming generation.

It is an interface where the person can be assisted on a personal level through his smartphone, by providing him with the resources for personal health and mainly their mental health.

PROBLEM DEFINATION

In this fast-paced world, we all are on a very tight schedule and people do not have time for themselves and their health, most importantly mental health. Also, people tend to rely on the news which circulates on social media apps which are sometimes fake or not properly framed causing panic situation. After this pandemic, we came to know the importance of self-care unless we are not healthy, we cannot build a healthy environment for the upcoming generation.

India has over 62 apps but all of them provide the same sort of service and that causes waste of resources, so they should also focus on the mental health of the people which is of more importance in such phases of time.


Main Modules

Covid info: Information about prevention measures, active cases tolls, etc.

Medical facilities: Information about testing centers, hospitals, etc.

Mental health section: Information regarding your mental health podcasts, eBooks, etc.

News: Verified news updates from proper trustable sources.

INDIAN AUTHORITIES HAVE LAUNCHED NEARLY 62 COVID-RELATED APPS SO FAR			
FUNCTION	APP NAMES	WHO MADE IT	WHERE IT IS USED
CONTACT TRACING	 AAROGYA SETU	National Informatics Centre (NIC) - IT Ministry	Pan India
	 MAHAKAVACH	Maharashtra State Innovation Society- Maharashtra Govt.	Maharashtra
QUARANTINE MONITORING	 BSAFE TRACKING	Kerala Police Cyberdome	Kerala
	 SMC COVID-19 TRACKER	Surat Municipal Corporation (SMC)	Surat
PROVIDE COVID 19 & HEALTH RELATED INFORMATION	 GOK DIRECT	Qkopy Online Services Pvt. Ltd., Kozhikode ; backed by Kerala Govt.	Kerala
	 KAVACH	Chhattisgarh Infotech Promotion Society - Chhattisgarh Govt.	Chhattisgarh
ESSENTIAL SERVICES - RELATED (GROCERIES & MEDICAL SERVICE)	 COVA	Uengage Services Pvt. Ltd., Haryana ; Punjab Govt.	Punjab
	 JAN SAHAYAK - HELPME APP	Electronics & IT Dept – Haryana Govt ; (OfBusiness) OFB Tech Pvt. Ltd., Gurugram	Haryana
COLLECT USER - SUBMITTED COVID RELATED INFO	 COVID-19 FEEDBACK	IT Ministry	Pan India
	 GCC CORONA MONITORING	Greater Chennai Corporation	Chennai
FINANCE RELATED	 JHARKHAND SAHAYTA	Jharkhand Space Applications Center - Jharkhand Govt.	for people of Jharkhand currently out of state
	 WEST BENGAL EMERGENCY FUND	West Bengal Govt.	anyone can use app to donate

Collect data on migrant workers belonging to Jharkhand to provide financial assistance

For users to donate to West Bengal State Govt. to fight pandemic

Already existing apps.

Applications of Apps

1. **Covid assistance:** Give the users proper information about covid cases, prevention, and social awareness. What they should do for optimal effect of the government policies and provide them updates over the detailed study of the latest decision taken by the state.



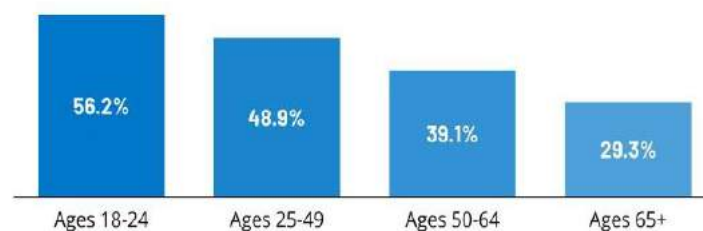
- 2. **Medical facilities:** Information about testing centres. Medical facilities like hospitals, vaccination centers are so that there less chaos and panic among people in emergencies, and that will eventually lead to less pressure on the public facilities.



- 3. **Mental health section:** The main thing lacking in the apps which already exist that they ignore the mental health of the user and the great damage caused to it during this pandemic.

During this period the suicidal thoughts increased in young adults by about 2 percentage i.e., it went from 8% to 10%, which very scary number.

Younger Adults are More Likely to Report Symptoms of Anxiety and/or Depressive Disorder During the COVID-19 Pandemic



Advantages:

1. Ease pressure from the medical and other public organizations.
2. Can indulge some positivity in the user in the tough time.
3. To ease out the process to find the nearest healthcare center and its contact details.
4. Is to provide assistant to the people in this new kind of social environment.

Disadvantages:

- 1.Apps need internet for live tracking.
- 2.Lack of access to people without mobile phones.
- 3.Can create panic if false information is feed both unknowing or intentionally

CONCLUSION

The various ways in which this app can help a user is by providing important information about the pandemic and various other information about the center and hospitals in the closest vicinity. It is an app with an easy-to-use interface where the user can be assisted on a personal level through his smartphone, by providing users with resources for personal health and mainly their mental health. To ease out the process of finding the nearest healthcare center and its contact details.

The goal is to aid people in this new kind of social environment. To make them aware of the real conditions, provide non-false news. Provide them with proper materials and exercise for mental health. This can also reduce the strain on the medical sector. A quick reminder about taking care of yourself and general good lifestyle recommendations Information about hospitals and Covid center to guide people in need of medical service No spam priority-based notifications. The aim is to provide people with a general app for their news and to help them cater to their physical and mental health.

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2. <https://theprint.in/india/india-has-at-least-62-apps-to-deal-with-covid-but-they-all-do-the-same-job-mostly/439040/><https://www.who.int/about/who-academy/the-who-academy-s-covid-19-mobile-learning-app>

AUTOMATIC VEHICLE CRASH & RESCUE SYSTEM – An Initiative Towards Road Safety

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ABSTRACT

In this fast-paced life, the demand of automobiles is increasing day by day. With current COVID-19 pandemic, people are avoiding public transport and preferring to travel using private vehicle. As a result of this, the percentage of road accidents is increasing. Many a times, due to delay in rescue, accident victims fail to get treatment in time resulting in more severe health damage or even death. Hence, it is necessary to alert rescue team about an accident as soon as it happens. In this paper, accident detection and rescue system is proposed. The proposed system detects crash with the help of accelerometer-gyroscope sensor and vibration sensor and then passes the location of vehicle and the time of accident to the registered emergency contact and Police control station. This message is also sent to rescue team i.e. the nearby hospital to avail emergency medical help. A Triggered system for driver is also provided in order to send a reset message to the control room in rare case where there is no casualty, this can save resources of the rescue team.

KEYWORDS - *Accelerometer, gyroscope, vibration sensor, MEMS*

INTRODUCTION

Every year a lot of road accidents happen due to various reasons such as hurry to reach in time, careless driving, over speeding, jumping the signal, avoiding road and car safety measures, alcohol intake and other road hazards.

Fig.1 Overall Death Report in Road Accidents



According to the survey, the number of road accidents are increasing as per the figure shown above. There is 9% increase in casualties over past four years. Every year, In India, over a lakh people die as a result of road crashes and the proportion of people getting serious injuries is almost four times higher. In 2019-20, around 1,64,745 lakh people died in road crashes in India as per the survey carried by Government of India. The statistics below clearly shows the death rate from different vehicles.

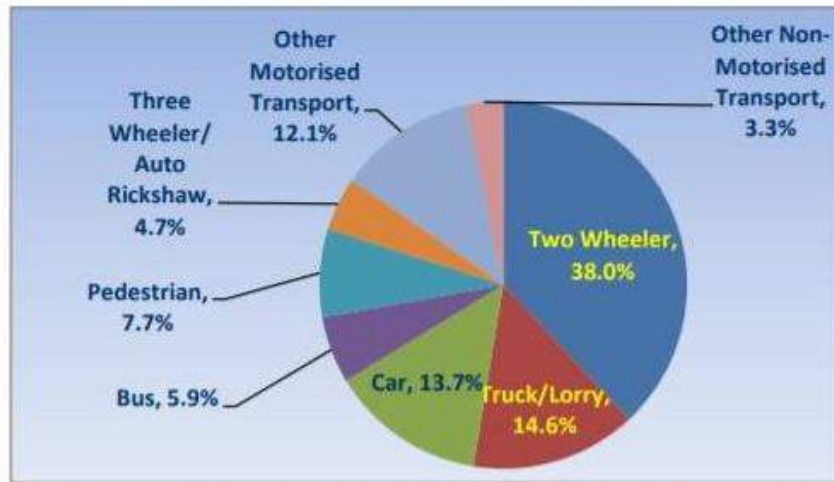


Fig.2 Statistics of Deaths by Road Accidents

Accidents and crash occurring in remote areas or on highways remain unnoticed for long time resulting in delay in emergency service. Delay in treatment can cause more serious problems or even death of accident victim. As per the statistics shown in above diagram, many lives could have been saved and could be saved if the emergency service could get the accident information as soon as it happens. In this paper, an efficient accident detection system is proposed.

PROPOSED SYSTEM AND WORKING MODEL

Automatic Vehicle Accident Detection and Rescue System is an Embedded Based project where the Arduino, GSM (Sim800), GPS (NE06M..V2), Accelerometer and Vibration Sensor is integrated to this Design System.

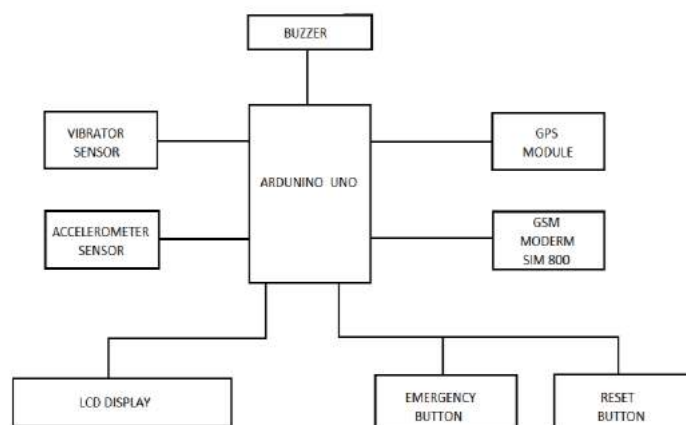


Fig 3. Block Diagram of Proposed System

This designed system will automatically detect the accident location and it will send an emergency notification to the nearest hospital, police station and victims Family. Sending an Emergency alert is a lot easier and convenient because all essential functionalities reside together.

Crash Detection

The main focus of this project is to detect a crash. In order to detect accident, MPU 6050(ADXL335)sensor is used which acts as an accelerometer and gyroscope. This sensor is also called as MEMS (Micro Electro-Mechanical Systems) sensor.

MPU 6050 is six axis motion tracking sensor which senses change in the motion. The change in motion is captured by mechanical system. Then ADC converter converts this change parameter into change in voltage. Thus, whenever controller detects change in voltage, it can predict the change in motion.

The multiple MPU 650 sensors are fixed on vehicle. Whenever crash occurs, this impact is sensed by sensors in the form of vibrations. These vibrations are then amplified by the built-in amplifier circuit. These vibrations are then converted into voltage. If the sudden change in the voltage is detected by Arduino, we can conclude the crash is occurred.

MEMS are able to store the factors such as vibration, speed, humidity, temperature etc. It is connected with the accelerometer hence if the speed of the vehicle is at a high rate it will give a warning alarm (indicator) to the driver. If the driver continues the driving with the same speed and accident occurs, the MEMS can detect whether it is a linear (only x axis) or nonlinear (x, y, z directions). Also, it can store all the data of the vehicle with the cause of accident.

The GPS and GSM are connected to this system. The communication for the GPS and GSM can be done through serial communication. The serial communication creates an interface through which it covert CMOS to TTL logic. The GPS is used to locate the position (longitude and latitude) of the vehicle.

The GSM in the black box can sent a message to the ambulance section, police station and GSM of the family member. The message includes the location, time and other details regarding the accident. This message helps the ambulance section, and police control and the family member about the accident and ambulance section can collect the patient from the accident spot to the hospital. The indicator for warning alarm can be done with the help of buzzer. This section has a direct power supply for entire unit will get from battery fixed in the vehicle. The power supply can be given directly to the microcontroller unit since it controls the entire.

In this model there are two Triggered buttons provide to diver RESET and Emergency Button. If the accident happened and it has low effect on diver, or he does not need any medical help so driver can push the REST Button that will Stop the delivery of message for everyone. During the travelling, the driver needs any medical emergency so, he can push the Emergency

Triggered button that will send message to the Victims Family, nearby hospital and Police station.

DIAGRAM:

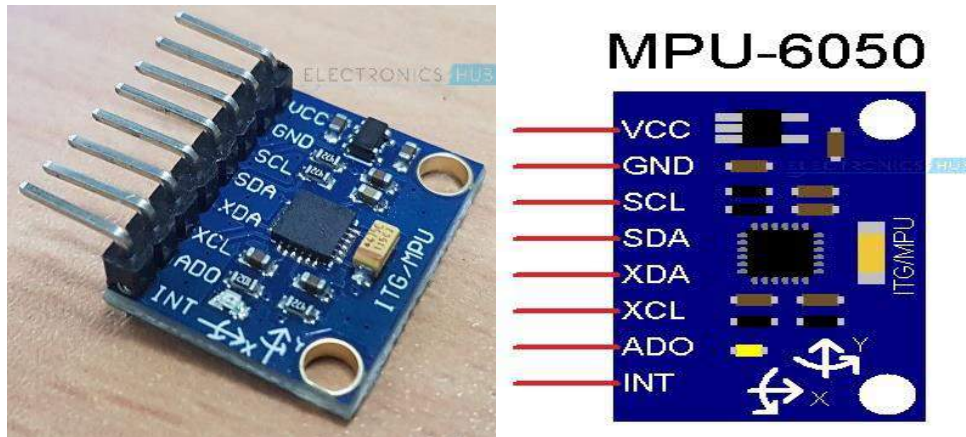


Fig 3 – MEMS Sensor Fig 4- Interfacing MPU6050

Working-

Step by step working of the system is explain below-

Step I- Accident Detection- When the accident happens, Accelerometer sensor detects the vibrations which in turn will produce increased output voltage.

Step II- As soon as the crash is detected; GPS and GSM modules are activated by Arduino unit. Once the impact is sensed, Step II is used to detect the time, angle, geographical location of the accident using GPS module.

Step III- The GSM module sends the accident spot, vehicle number, accident time and location to Police Control Room and nearby hospital and victims Family.

Step IV- In case the accident is minor, through Triggered system driver hold the RESET trigger, that will cancel the alert message.

Step V- In Case the driver is not well during the travelling. He can hold the Emergency trigger, that will inform the control room as emergency medical help is required.

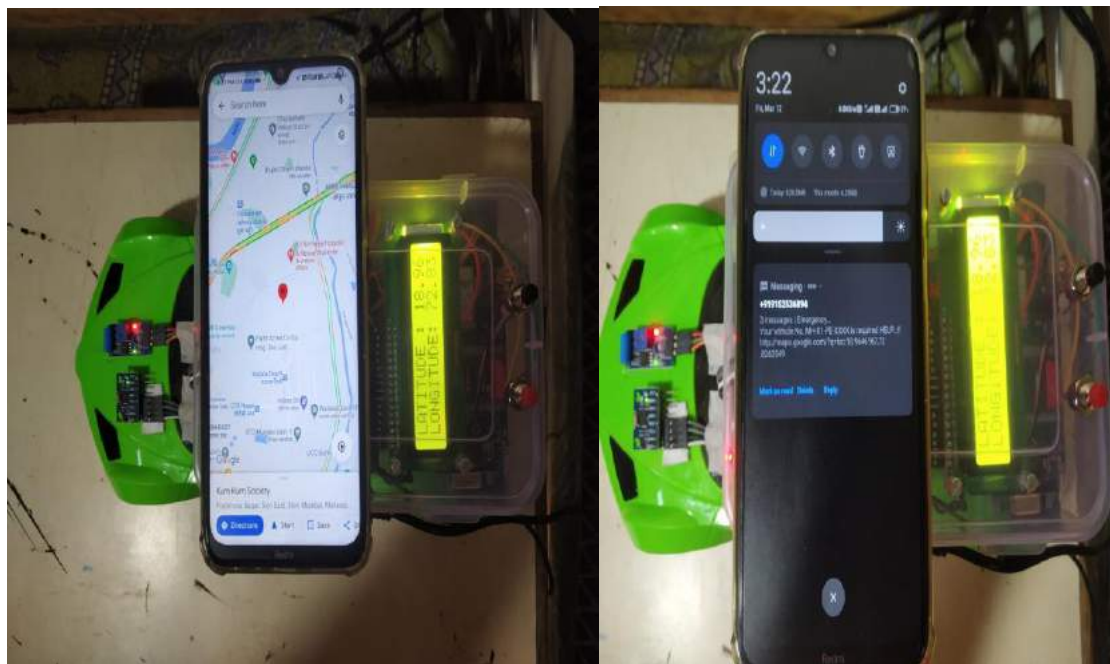
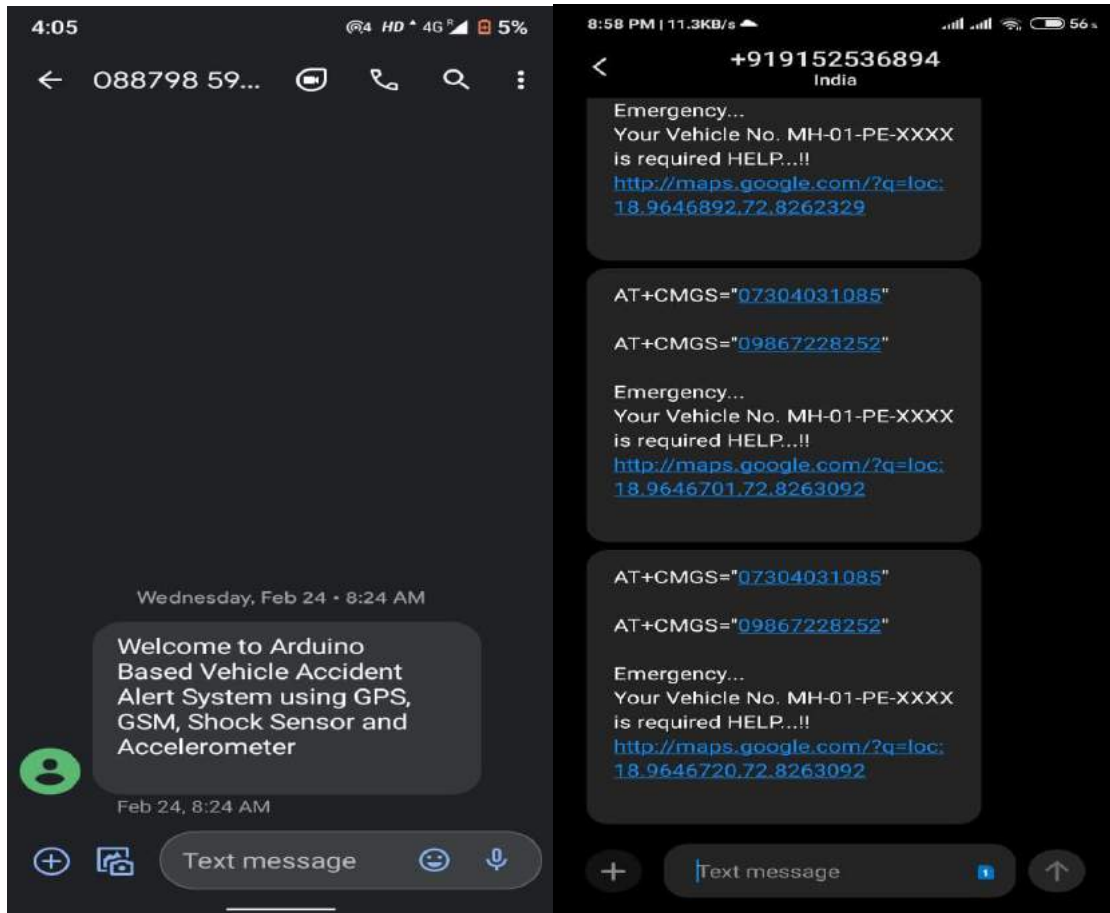


Fig 7 Coding Output for Front-end Application

CONCLUSION

Every year over a lakh of people die due to road accidents with fatal injuries. Most death occurs in vehicle accidents are due to unavailability of immediate medical service. This proposed system will be helpful for the help services, to locate and provide help as early as possible. Apart from this, serious accidents will be given the first priority by the help services. A rescue in time with sufficient preparation at the correct place can save valuable lives. In the preproduction of the vehicles if this system is implemented, it will have a great impact in reducing accidental deaths. In future this system can be integrated with safety measure such as gps tracker, air bag sensor, SOS messaging system etc. Thus, this proposed system can serve the humanity by a great deal as human life is valuable.

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AN EXTENDED LITERATURE REVIEW OF BUSINESS INTELLIGENCE

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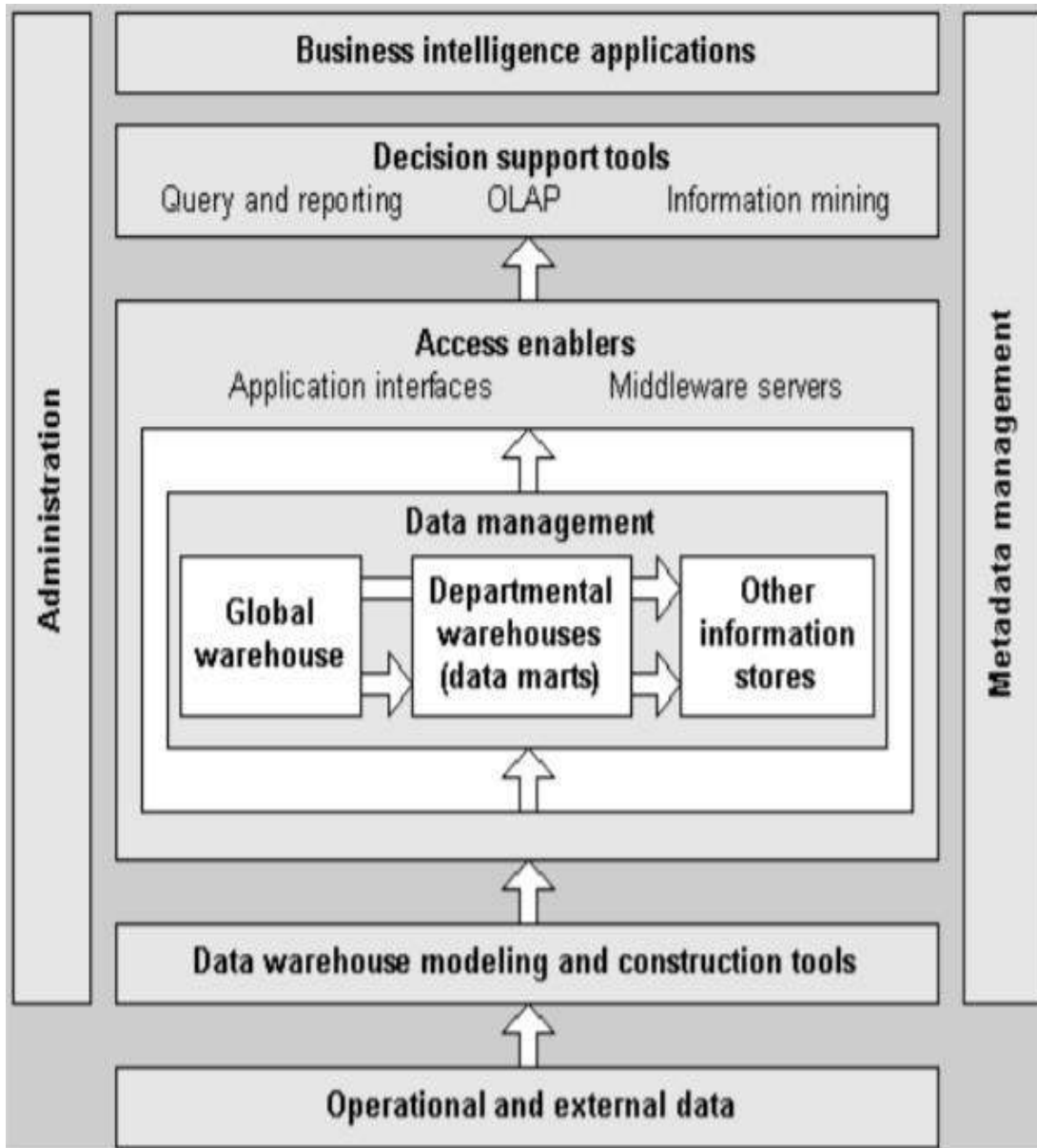
ABSTRACT

Enterprises are considering substantial investment in Business Intelligence (BI) theories and technologies to maintain their competitive advantages. BI allows massive diverse data collected from virus sources to be transformed into useful information, allowing more effective and efficient production. This paper briefly and broadly explores the business intelligence technology, applications and trends while provides a few stimulating and innovate theories and practices. The authors also explore several contemporary studies related to the future of BI and surrounding fields.

KEYWORDS: *Business intelligence, Big Data Analytics, Cloud Computing, Data Warehousing, Data Mining.*

INTRODUCTION

The term intelligence has been used by researchers in artificial intelligence since the 1950s. Business intelligence became a popular term in the business and IT communities only in the 1990s. In the late 2000s, business analytics was introduced to represent the key analytical component in BI. The general goal of this paper is briefly and broadly to explore the BI technology, applications and trends while provides stimulating and innovate theories and practices.



BUSINESS INTELLIGENCE APPLICATIONS

Business Intelligence applications are sporadically used in a majority of search-based applications within a variety of fields, such as Business, Security, Finance, Marketing, Law, Education, Visualization, Science, Engineering, Medicine, Bioinformatics, Health Informatics, Humanities, Retailing, and Telecommunications, just to list a few. While BI is widely used in Enterprises (private or public entities) for both standard business and e-business, BI applications are growing in many diverse fields. For instance, in the areas of Mobile Device Fraud Detection, Health Care Informatics, and even in Chronic Disease Management, studies are beginning to describe the advantages of BI applications.

Mobile Device Fraud Detection

By providing real-time monitoring of processes, businesses were able to capitalize quickly on time-sensitive business opportunities. The sample of mobile phone fraud detection was used to gather events and was analyzed to detect usage patterns for normal or fraudulent behavior.

Health Care Informatics

The described BI and healthcare analytics as emerging technologies that can improve industry service quality, reduce cost, and manage risks. They note, however, that analytics healthcare data processing is mostly missing from current healthcare information technology (HIT) programs. Their paper conducted an analysis of how BI technologies can be incorporated into an HIT program. A general framework and several strategies were presented; the authors conclude by stating they will expand their investigation onto a national level to improve the framework. It is their hope that more HIT programs will recognize the importance of healthcareBI.

Smart Health and Wellbeing

Much like the big data opportunities facing the ecommerce and S&T communities, the health community is facing a tsunami of health- and healthcare-related content generated from numerous patient care points of contact, sophisticated medical instruments, and web-based health communities. Two main sources of health big data are genomics-driven big data (genotyping, gene expression, sequencing data) and payer-provider big data (electronic health records, insurance records, pharmacy prescription, patient feedback and responses).

The expected raw sequencing data from each person is approximately four terabytes.

Partially funded by the National Institutes of Health (NIH), the NSF BIGDATA program solicitation includes common interests in big data across NSF and NIH.

Security and Public Safety

Since the tragic events of September 11, 2001, security research has gained much attention, especially given the increasing dependency of business and our global society on digital enablement. Researchers in computational science, information systems, social sciences, engineering, medicine, and many other fields have been called upon to help enhance our ability to fight violence, terrorism, cybercrimes and other cyber security concerns.

FEATURES OF BUSINESS INTELLIGENCE

Although a good number of features of BI theory and practice exist, we will discuss here the most prominent and well-researched. There are several research thrusts related to assorted aspects of BI worthy of exploration: Data Integration, Real-Time Analytics, Balanced Efficiency and Effectiveness, and Collaboration and Teamwork.

Data Integration

Their goal was to facilitate the design and use of optimal flows to meet new and evolving business requirements. Their paper investigated the traditional BI architecture and compared it to next generation architecture. Their solution was a layered methodology for data integration flow life cycles. Metrics and tradeoffs were discussed, and the pros were shown to outweigh the cons. They concluded that with the more complex integration flow designs, it is important to create automated or semi-automated techniques to help practitioners deal with the complexity.

Real-Time Analytics

A “sense and response service architecture” called SARESA provided real-time monitoring of processes and allowed businesses to quickly capitalize on time-sensitive business opportunities. The real-time analysis requirements of a BI system, which are not a part of the traditional BI system, included data freshness, continuous data integration, analysis and active decision engines, high availability, and scalability. As mentioned earlier, the sample of mobile phone fraud detection was used to walk through the architecture’s approach. Call Detail Records (CDRs) are gathered as events and analyzed to detect usage patterns for normal or fraudulent behavior. This was a prototype of the SARESA system, and it will continue to be developed to support time-sensitive BI platforms.

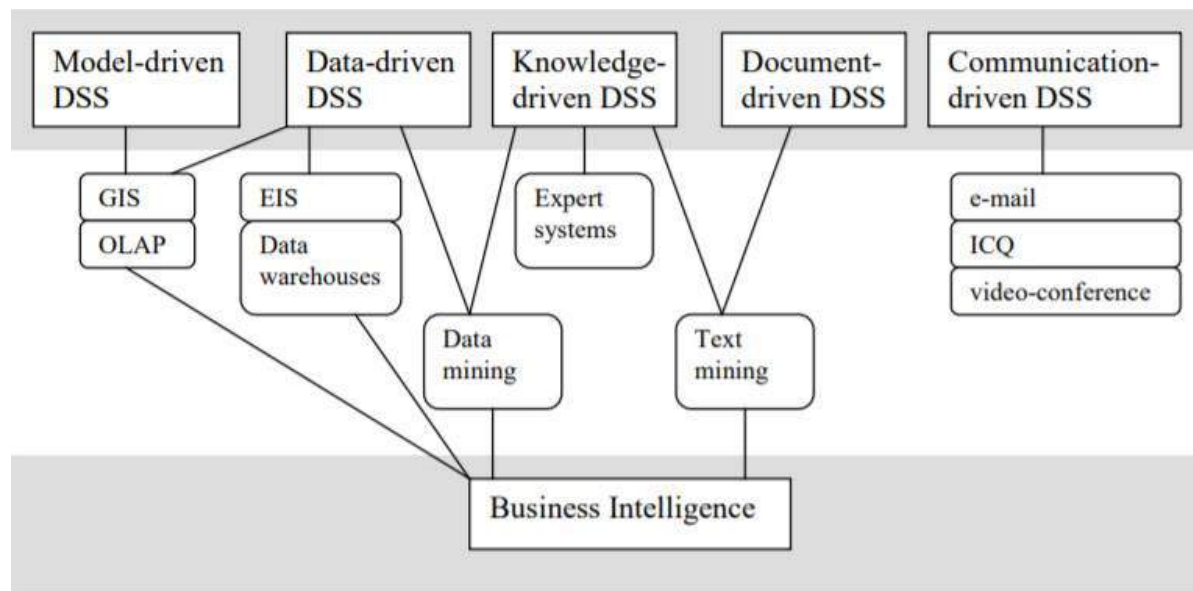
Balanced Efficiency and Effectiveness

Evaluating BI capacity, scope of delivery, information delivery capability curve, and levels of BI. Managed BI growth can be linked with BI capability, meaning that at any stage it is significant to operational, tactical or strategic perspective. For example, if a good is going to be made for one vendor, they may ask, “What is the most cost-effective way to manage our people and process to produce a product for our customer?” Next, they moved on to describing identifying and building capability, optimizing the architecture, and controlling the flow of information, focusing on areas defining organizational BI needs. For each category, authors identified needs to conceive and compose. The identification and building of capacity requires performance business-sustaining processes and generation of operational and managerial reporting capability.

Collaboration and Teamwork The common shortcomings with organizations are the lack of business context information for analytical data, with too little emphasis on data from strong collaboration and a lack of integrating external or unstructured information in an effective and timely way. The BI platform proposed allows business users to shape their strategies in a collaborative manner, putting information acquisition back into the business user’s hands. It is accomplished with a flexible data model, scalable data store, a business configuration methodology, an information self-service environment, and an integrated collaboration environment (for instance, “Collaboration Rooms”).

DATA STORAGE AND TECHNOLOGY:

As computer technology advances, larger volume of data are acquired and stored at much lower cost. Any classification of transaction in business, including e-business, RFID tags, Web sites, emails, blogs, and many more produces new data to be tracked.



Authors briefly provide most important aspects of data storage and technology below, beginning with Data Type (Structured and Unstructured), Data Warehousing, Data Mining, and Data in Clouds.

Data Warehousing

One of the main sources of data provided for BI applications is collected from data warehouses. Data acquisition is becoming cheaper and easier, while the size of the data are getting larger, within range of tens to hundreds of terabytes. The two are compared on four characteristics, including heterogeneous data integration, types of measures supported, aggregate query processing, and incremental maintenance. The authors also provide explanations as to why semi-structured DMM is better than structured DMM. In their article, they used the RTDW framework as an example for a telecommunication company. Their experiment showed that if a delay is caused in incremental maintenance of DMM, there is no ETL technology that can help in real-time BI. They conclude that semi-structured XML-incorporating real-time data updates from operation sources. Not only does it reduce query response time, but also increases real-time BI.

Data Mining

In simple terms, data mining provides extensive and complex analysis of historical and current

data, allowing the building of predictive models. After a brief description of the aspects of data mining, authors move into the different standards of data mining and break them up into three major categories XML Standards, Standard API's, and other standard efforts. In XML standard there was a group known as the Data Mining Group that developed PMML (Predictive Model Makeup Language) that represented and described data mining and statistical models, as well as some of the operations required for cleaning and transforming data prior to modeling. PMML consists of the following components: Data dictionary, Mining schema, Transformation dictionary, Model statistics, and models. The consensus among Data Mining Group members is that the transformation dictionary is powerful enough for capturing the process of preparing data for statistical and data mining models. After a brief description they illustrate the software that was developed for SQL, Java, and Microsoft. Knowing these few standards, they proceed to introduce other standard efforts, which define software objectives in data mining. These include Data mining metadata, process standards, and web standards.

Cloud Data services

Cloud virtualization allows virtual servers to be hosted in the cloud, ultimately providing much lower cost of hardware and software, while providing better utilization of resources. As companies are moving toward cloud-based offerings for increased scalability and flexibility with lower costs, this seems like a great strategy. However, with BI applications, businesses sometimes have sensitive data that cannot be completely outsourced to a cloud environment. The four scenarios gradually show how more specialized data or the movement of a BI application can trigger events in other systems indicating targeted applications should be moved by following a local and cloud deployment model rather than an all-or-nothing with cloud infrastructures only.

BIG DATA ANALYTICS

Data analytics refers to the BI&A technologies that are grounded mostly in data mining and statistical analysis. As mentioned previously, most of these techniques rely on the mature commercial technologies of relational DBMS, data warehousing, ETL, OLAP, and BPM. Since the late 1980s, various data mining algorithms have been developed by researchers from the artificial intelligence, algorithm, and database communities. In ranked order, they are C4.5, k-means, SVM (support vector machine), Apriori, EM (expectation maximization), Page Rank, AdaBoost, kNN (knearest neighbours), Naïve Bayes, and CART (Wu et al.2007). These algorithms cover classification, clustering, regression, association analysis, and network analysis. Most of these popular data mining algorithms have been incorporated in commercial and open-source data mining systems.

EDUCATION CHALLENGES

BI focuses on understanding, interpretation, strategizing, and taking action to further organizational interests. Several academic disciplines have contributed to BI, including IS, CS, Statistics, Management, and Marketing, as shown in our bibliometric study. IS programs, in particular, are uniquely positioned to train a new generation of scholars and students due to their emphasis on key data management and information technologies, business-oriented statistical analysis and management science techniques, and broad business discipline exposure (e.g., Finance, Accounting, Marketing, and Economics). Since its inception approximately 45 years ago, IS as an academic discipline has primarily focused on business needs in an era when the major challenges involved the management of internal business and transaction data. In the age of big data, these problems remain, but the emphasis in industry has shifted to data analysis and rapid business decision making based on huge volumes of information. Such time-critical decision making largely takes place outside of the IS function.

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FILE SECURITY SYSTEM - A Step Towards the Secured Systems.

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ABSTRACT

Data provides a critical foundation for every operation of your organization. Protecting and using it securely is central to a zero-trust strategy. Unfortunately, cybercriminals also see the value of data and seek to exploit security vulnerabilities to put your information at risk. Safeguarding it from corruption and unauthorized access. So, the security system is quickly becoming mandatory feature of the data storage systems. For the security purpose we are always dependent on the cryptography techniques. These techniques stake the performance costs for the complete systems have proposed the File Security System (FSS).

KEYWORDS : *Files, security, FSS, cybercrime, cryptography*

INTRODUCTION

File is one of the most important resources of the computer system which should always be protected from the unauthorized access that it cannot be tampered or stolen by intruders. The file security can be enforced using cryptographic techniques. With the help of these techniques the important files are encrypted, and authorized use rare given appropriate cryptographic keys. Security is currently a widespread and growing concern that affects all areas of the society, in the same manner data an information security has become one of them most pressing challenges confronting all kind so present-day organizations owing to the rapid adoption of information technology (IT)in the entire of the activities.

Encryption is an interesting piece of technology that works by scrambling data, so I tis unreadable by unintended parties. Say I want to send you a private message, so I encrypt it using a program. Encryption is an interesting piece of technology that works by scrambling data, so it is unreadable by unintended parties. Whether its in transit like our hot dog party email or resting on your harddrive,encryption work stockkeeping eyes out of your business—even if they happen some how gain access to your network or system. Encryption nowadays is not only a defence mechanism, but cyber criminals are also using it. Ransomware is a cybercrime here, the attacker attempts to encrypt various devices, including computers and servers. The attackers often demand a ransom before they

provide a key to decrypt the encrypted data. Ransomware attacks against government agencies can shut down services, making it hard to get a permit, obtain a marriage license, or pay a tax bill. When we talk about file security and encryption, there are various type so methods and algorithms that are used, some of which are:

1. Triple DES
2. RSA
3. Blowfish
4. AES

PURPOSE

While encryption doesn't magically convey security, it can still be used to protect a user's identity and privacy. If we are ever being watched, inadvertently or not, we can hide our data by using properly implemented crypto systems.

Encryption of data is used to protect the data from the unauthorized people and to avoid manipulation and misuse of the data.

It is need for protection but why do we need it, some major reasons for having it are.

1. Internet privacy concerns are real
2. Hacking is big business
3. Regulations demand it

OBJECTIVES

- To reduce stress, time consumption and cost of operation involved in a manual security system.
- To develop a software system that will restrict unauthorized access to data files on systems.
- Suggest security techniques which can create a conducive working atmosphere for organizations that are having their data threatened.
- Enhance key sharing mechanism that allows users to share and have access to files security.
- Ease of access to private information is available for anyone who is authorized to access it, such as when a customer requests to view his or her profile.

It is need for protection but why do we need it, some major reasons for having it are.

1. Internet privacy concerns are real
2. Hacking is big business
3. Regulations demand it

SCOPE

For the security purpose we are always dependent on the cryptography techniques. These techniques take the performance costs for the complete system, so we have proposed the Java File Security System.

Here it has a reversal process, when the user makes proper request, this process will decrypt the encrypted data to its original form. Before encryption and decryption of data is done, this system will confirm the authorization of the user and the standards of authentication environment.

We intend to make a software which has following qualities.

1. To have a very basic and user-friendly software to protect the data at home.
2. During authentication if user forgets password, he/she can have a new password.
3. If an attack happens on the encrypted file of the user, the system will automatically backup all encrypted data.
4. Being a simple software, it needs a lot of improvisation in term of managing huge amount of data.
5. In near future we hope to include and encrypt data in cloud databases for additional safety.

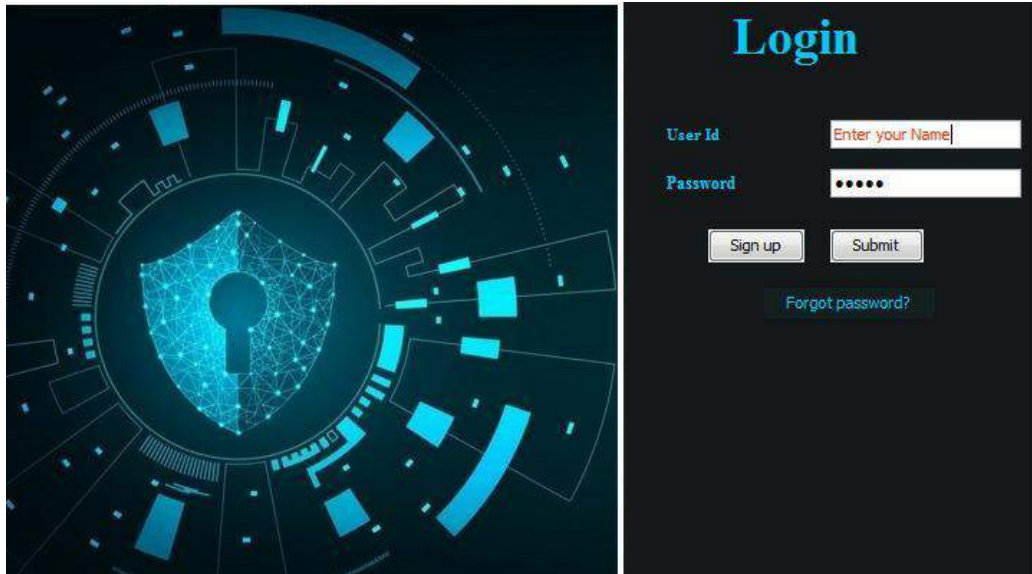
Finally, to maintain the most important components of security CIA

- Confidentiality
- Integrity
- Availability

APPLICATION

Conventionally, cryptography has only been applied for secure purposes. In general, wax seals, hand signatures and a few other forms of protection measures have been used to ensure the transmitter's reliability and accuracy. And security is becoming more important with the advent of digital transmissions.

- To Maintain Secrecy in Storage
- Reliability
- Authentication of Identity



Methodology

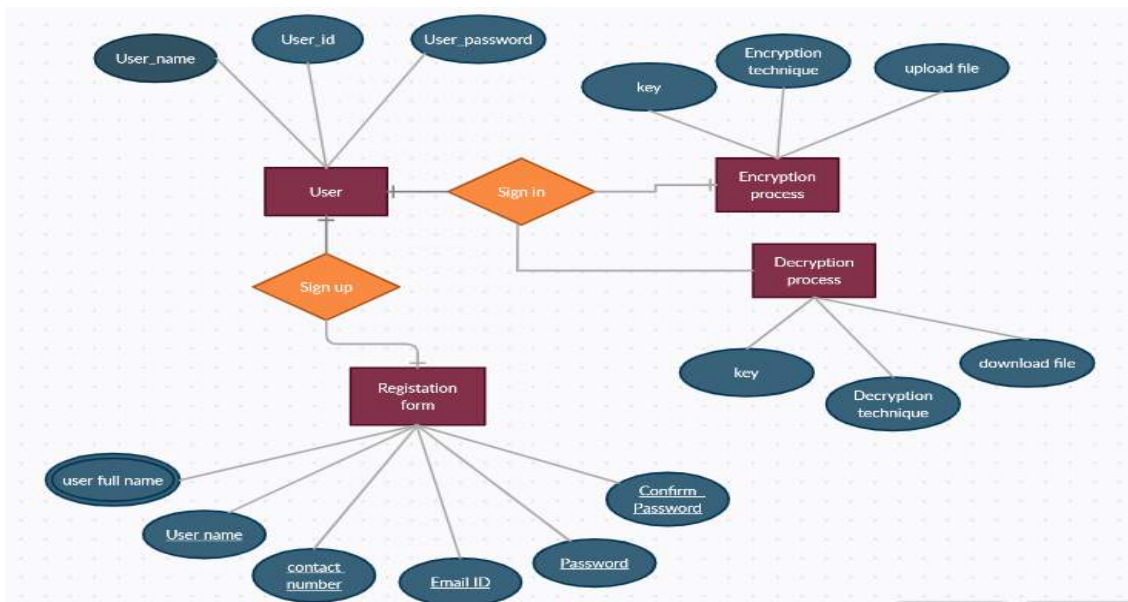
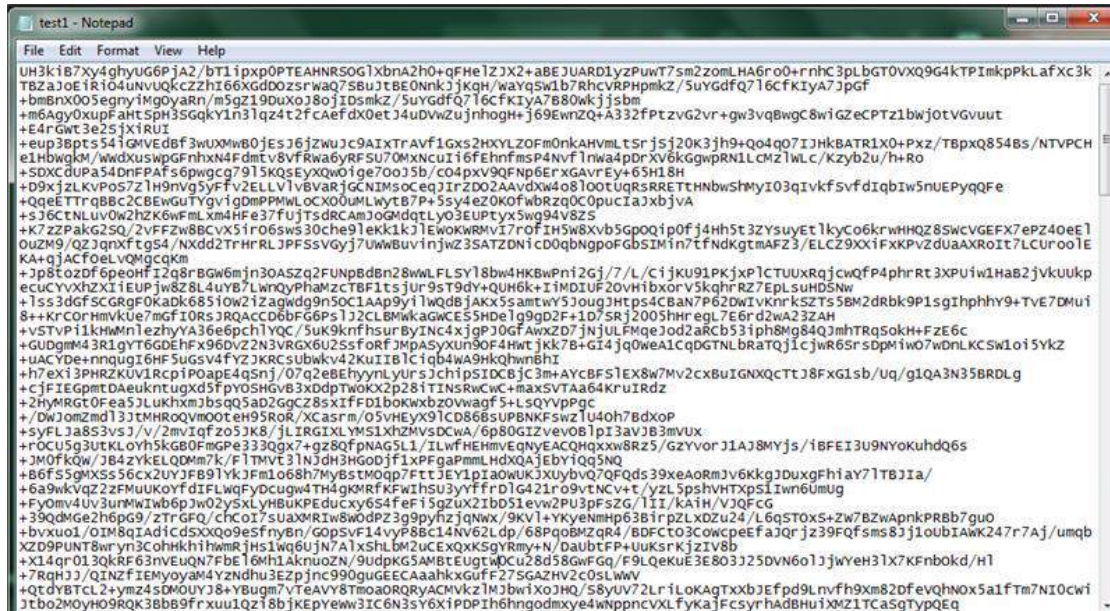


Fig: E-R Diagram



CONCLUSION

We have contributed in the designing and development of a user space cryptographic file system. The cipher text is undoubtedly hard to recover the original content for random asymmetric key. Wide application of the proposed algorithm protects the information.

We have balanced the design goals like security, performance, convenient and in dependability of the system. We learnt a lot and got a chance to explore many new things.

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SMART EXAMINATION CELL

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ABSTRACT

The main motive of this project is basically for the current pandemic situation, as most of the schools/colleges are facing difficulties in conducting online national and state-level examinations. Hence, this Project is efficient in conducting offline examinations with no human interaction. Smart exam cell consists of QR attendance monitoring system and the Smart Chair module. The Smart Chair system which is IoT based is proposed in this paper as a solution to minimize the effects of online examinations such as cheating, network issues, etc. This model is basically used for real-time monitoring. This advanced technology is convenient and accessible. These observations indicate that the Smart Chair system is a feasible and efficient tool for conducting offline examinations without any complications. The given model can be customized by the specific school/college so as to be cost efficient. If a specific school/college has a higher budget the components can be more hi-tech also if it has a lower budget the components can be cheaper and budget friendly.

KEYWORDS: *Smart chair, Contactless, IOT, attendance system.*

INTRODUCTION

During the early stages of the pandemic, when the nature of the coronavirus was still unknown, most universities decided to temporarily avoid all in-person contact and close their campuses completely.

In many higher institutions, upcoming examinations were cancelled. Without a clear understanding of how the corona virus operated and the most effective measures to prevent its spread, collecting students into one room for a prolonged period was no longer considered safe. However, examinations are a critical part of the higher education process and a necessary step in providing students with accurate grades. According to the University Grants Commission (UGC) of India, cancelling crucial higher education examinations altogether was simply not an option.

The OFFLINE MODE of examinations increases the physical interaction between the teacher and student. This model reduces the risk of physical interactions by maintaining social distancing between the candidates while appearing for the examinations.

With the advent of the Internet-of-things (IoT), a more effective and efficient platform can be provided for the continuous supervision of the health and examination environment. The usage of the Smart Exam Cell system, with reliable security and health monitoring capabilities, is a reasonable solution to this requirement.

System architecture

Sensor's integration module includes different sensors for health monitoring while security system module involves human detection. The collected data must be saved at a central location such as remote server and be accessed by the supervisor from their own portable devices via mobile application at any remote location. Various sensors and hardware components utilized in Smart Chair system are summarized in Table:

Requirements	Hardware Components
Optimised Entrance	QR code
Person Identification	Camera
Human Detection	IR Proximity Sensor
Body Temperature Monitoring	NTC Thermistor
Voice Command Generation	USB Microphone
Notification and Warning	USB Speaker
Control Unit	Arduino
Display Question Paper	LCD

Fig 1

OBJECTIVES

- Reduce Physical contact between teachers and students.
- To make offline exams possible.
- E-learning/Virtual classrooms (Even if the Pandemic is over).
- Cost efficient virtual learning.

METHODOLOGY

STEP 1:

When the students enter the class, the temperature of the students will be measured by the NTC thermistor Sensor. If the Temperature is appropriate/in the given limits the student will be allowed to appear for the exam.

STEP 2:

As soon as candidate enters to the exam cell he/she needs to scan their particular QR code. Every Student will be given a unique QR which will be scanned at the entrance. QR code is identification for each student. The student will be marked absent if the QR is not also scanned the failure to identify the user will trigger a sound alarm over speakers/buzzer. Nevertheless, the identification of the user is preceded by a human detection procedure via camera during the temperature scan.

The chair occupancy is detected with an IR sensor that senses the Object of the human body. Once, it is detected that a chair has been occupied, the user will be greeted, and the question paper will be displayed at the specific time of the exam. In case of any Emergency or if the student wants to leave the exam a specific button can be pressed which will initiate a call to the supervisor. Another button is provided to contact the specific subject teacher for any doubts.

STEP 3:

The call initiated will be connected to the specific teachers via USB Microphone and the USB speaker. Once the exam time is over the screen display will go blank.

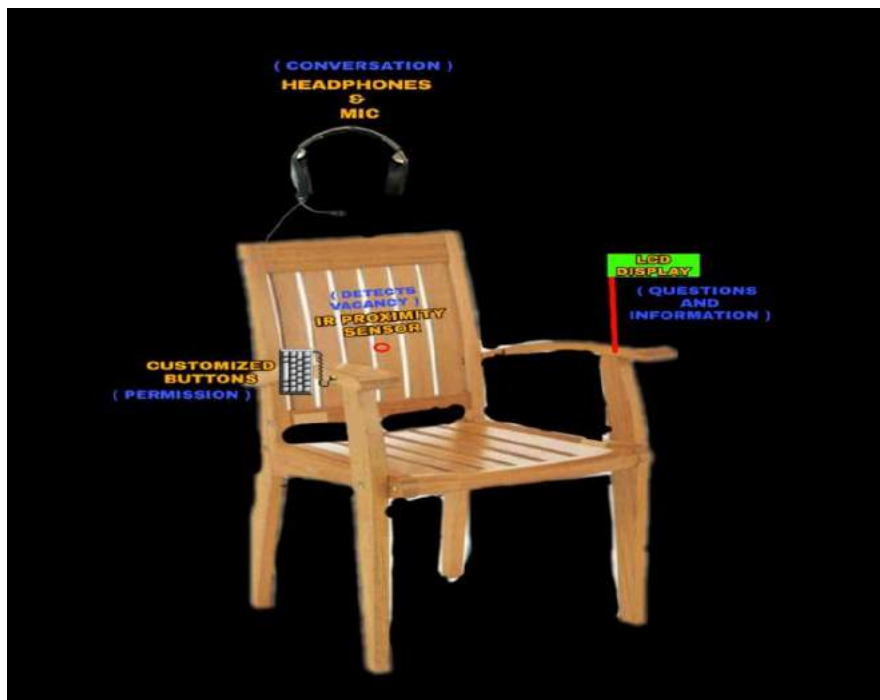


Fig 2

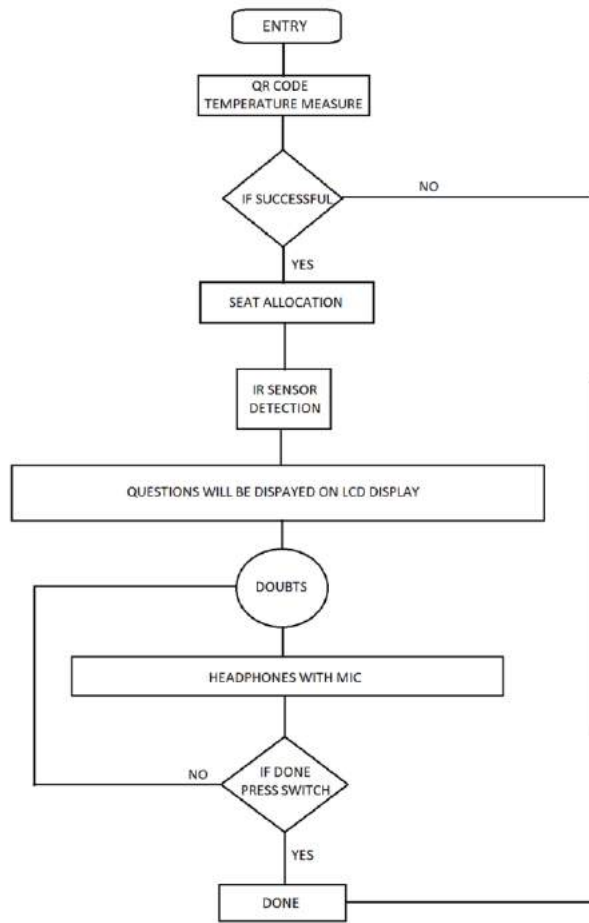


Fig.3

CONCLUSION

With the advent of the Internet-of-things (IoT), a more effective and efficient platform can be provided for the continuous supervision of the health and examination environment. The usage of the Smart Exam Cell system, with reliable security and health monitoring capabilities, is a reasonable solution to this requirement.

IMPACT OF COVID-19 ON INDIAN EDUCATION SYSTEM

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ABSTRACT

The impact of pandemic COVID-19 is observed in every sector around the world. The education sectors of India as well as world are badly affected by this. It has enforced the world-wide lock down creating very bad effect on the students' life. Around 32 crore learners stopped to move schools/colleges and all educational activities halted in India. The outbreak of COVID-19 us that change is inevitable. It has worked as a catalyst for the educational institutions to grow and for platforms with technologies, which have not been used before. The education sector has been fighting to survive the crises with a different approach and digitizing the challenges to wash away the threat of the pandemic. This paper highlights some measures taken by Govt. of India to provide seamless education in the country. Both the positive and negative impacts of COVID-19 are discussed and some fruitful suggestions are also pointed to carry out educational activities during the pandemic situation.

KEYWORDS – Covid-19, ICT, Pandemic, Lockdown, Education, Survey

INTRODUCTION

On March 11, 2020 World Health Organization (WHO) declared Covid-19 as a pandemic. It affected more than 4.5 million peoples worldwide. In India, the first affected case of Covid-19 was detected on 30 January 2020 in the state of Kerala. In India, the first death was reported on March 12, 2020 and the nation observed Janta Curfew for a day on March 22, 2020. India again observed 14 hours Janta Curfew on March 24. In all the phases of lockdown starting from lockdown 1.0 to lockdown 5.0, the educational institutions throughout the country never got any relaxation to start their respective educational activities. Thus, pandemic Covid-19 impacted significantly on the Indian education sector. In India, more than 32 crores of students were been affected by various restrictions and the nationwide lockdown for Covid-19.

After observing the corona virus pandemic situation, the WHO advised to maintain social distancing as the first prevention step. So, every country started the action of lockdown to separate the contaminated people. The education sectors including schools, colleges and universities became closed. all examinations of schools, colleges and universities including entrance tests were postponed the lockdown destroyed the schedules of Though it is an exceptional situation in the history of education, COVID-19 has created many opportunities to come out of the rigorous classroom teaching model to a new era of digital model.

OBJECTIVES

1. To enlighten various measures taken by Govt. of India for education sector during this pandemic.
2. To highlight various positive impact of COVID-19 on education.
3. To enlist some negative impacts of COVID-19 and to put some effective suggestions for continuing education during the pandemic situation

METHODOLOGY

Data and information presented in current study are collected from various authentic websites. Data survey through students who were challenged the most due to the pandemic. Use of some journals and e-contents related to impact over educational system due to the pandemic of Covid-19.

PLAN OF STUDY

The students and teachers of 10th and 12th grade were also included in the study leading to number of participants to 1,632 (1,442 students and 190 teachers). The survey was conducted during the pandemic lockdown (from 5 to 8 May 2020) by following all the rules of social distancing and without risking the lives of any participant. The planning and discussion amongst the team members was also done via online platforms like ZOOM, and teams, google meet.

SURVEY DESIGN

The questionnaire for the survey was designed using Google Forms after a thorough literature survey including research articles, blogs, news reports and official websites of national and international organizations. Two separate survey forms were developed for teachers and students each to ensure avoidance of incorrect data. Each form had 10 questions which were basically divided under two major titles of 'Educational challenges' and 'Educational Adaptations'. After multiple revisions, the finalized draft of the survey form was created which was used for a trial wherein the survey was attempted by the team to understand and solve any technical or technological blunders. The trial was evaluated for results and necessary changes were made In

the questions to avoid any future confusion.

USE OF ICT IN TRADITIONAL EDUCATION SYSTEM

Education is the most powerful weapon we can use to change the world. As we all know how much education is important for the growth of generations and humanity Stopping it whatmeans is end of humanity such situations arrived with the pandemic of Covid-19 resulting in shutting down of educational institutes all over the globe. Stopping the education resulted in huge problems like degradation in employment, loss of time, loss of money etc.

But the world never stops battling problems changes were made as ICT came into the picture to sought out problems in the pandemic. It acted as a tool but worked more than a weapon to start education back on track with using different platforms using technology. The gap between the students and teachers were filled with this. Students started studying from home without travelling anywhere risking with their life.

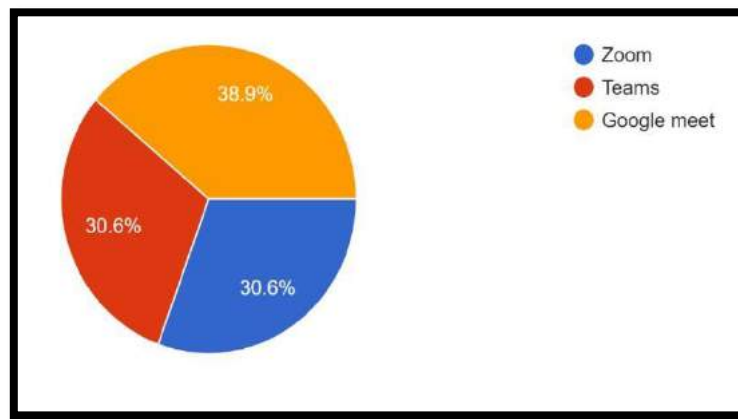


Fig 1: Software tools preferred by institutes.

Software like Microsoft Teams, Google Meet, Zoom were being used to teach students across different stream different boards to conduct lectures and even it was being possible to conduct examinations over this platform for the students.

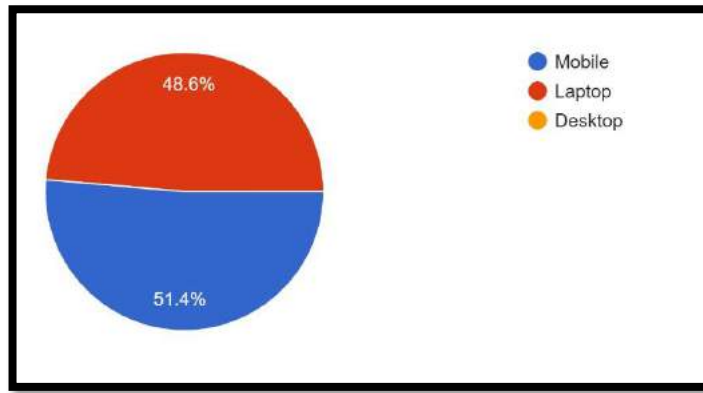


Fig 2: Tools used by students.

Tools of smart phones and laptops were being used for studying for students even smallkids were using such devices where were never being used in education system earlier. Even professors with non-background of IT were being involved in using of these techniques.

POSITIVE / NEGATIVE IMPACTS OF COVID-19 IN EDUCATION

As we saw how technology can be a savior for the education system, but it is not the same for each and everyone. As there are many faults and loopholes in any sudden huge change

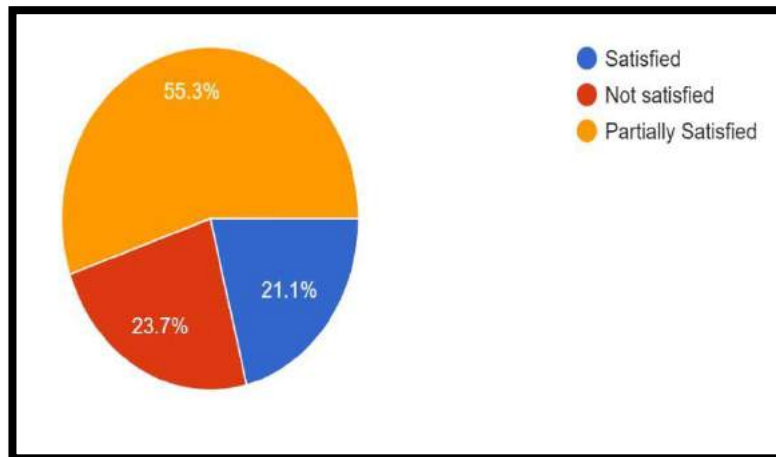


Fig 3: Student Satisfaction report for use of ICT

Making the use of technology helped the students and teachers back to study and it came with many benefits and even disadvantages at the same time which are being discussed below.

POSITIVE IMPACTS

Indian education system got the opportunity to bring about changes over from the traditional system of pen and paper to a new digital era. The points cover the positive impacts:

- **RISE IN ONLINE MEETING:** The pandemic brought a massive change and rise in teleconferencing, virtual meetings, webinars, and e-conference opportunities.
- **ENHANCED DIGITAL LITERACY:** The pandemic made people learn about digital platforms and use digital technology and techniques resulted in increasing the digital literacy.
- **USE OF SOFT COPY LEARNING MATERIAL:** During lockdown students were not able to collect the hard copies of study materials and hence most of the students used soft copy and digital content for study reference.

NEGATIVE IMPACTS

Education sector had to suffer a lot due to the outbreak of Covid-19. It created many negative impacts as well:

- **UNPREPARED TEACHERS/STUDENTS FOR ONLINE CHANGE:** Not all teachers and students were good at technology or not all of them were ready for this sudden change from face to face to learning to online learning.
- **ACCESS TO DIGITAL WORLD:** The lockdown hit the poor students very hard in India as most of them were unable to explore online learning according to various reports. Many students had limited, or no internet access and many students were not able to afford smart phones or laptops.
- **RESPONSIBILITY OF PARENTS INCREASED:** Some educated parents were able to guide their kids, but many do not have the adequate level of education needed to teach children in the house.

IMPACT ON FINAL YEAR STUDENTS

The most impact was made to final year batch of 2020 as their final year exams were being postponed leading to have a bad effect on their graduation, mental stress, risk of their jobs. Most of the recruitment got postponed due to Covid-19.

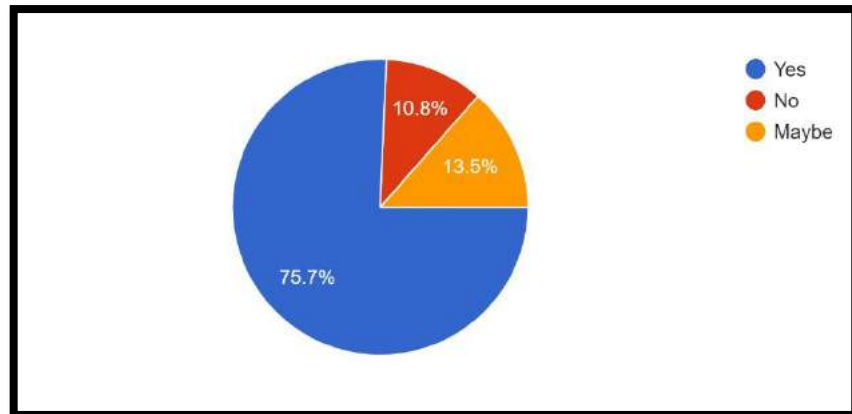


Fig 4: Survey about placement

Placements for students also was affected with company delaying the on board of students. Many people lose their jobs due to pandemic be from India and foreign return candidates made it harder for the final year students to get their job. Hence, the fresh students who were likely to enter the market faced difficulty in getting suitable employment. Many students who already got jobs through campus drives we're not able to join their jobs due to lockdown.

SUGGESTIONS

India should develop creative strategies to ensure that all children must have sustainable access to learning during pandemic COVID-19. The Indian policies must include various individuals from diverse backgrounds including remote regions, marginalized and minority groups for effective delivery.

Immediate measures are required to lessen the effects of the pandemic on job offers, internship programs, and research projects.

Many online learning platforms offer multiple programmes on the same subjects with different levels of certifications, methodology and assessment parameters. So, the quality of programmes may differ across different online learning platforms.

Across the globe, Indian traditional knowledge is well known for its scientific innovations, values and benefits to develop sustainable technologies and medicines and this knowledge systems in different fields should be integrated with a present-day mainstream higher education system. Govt and educational institutes should plan to continue the educational activities maintaining social distancing. 30-40% students and teachers may attend schools/colleges in two shifts per day to carry on educational activities by obeying guidelines for COVID-19. At current times, access to technology and internet is an urgent requirement. So, the digital capabilities and

the required infrastructure must reach to the remotest and poorest communities to facilitate the students to continue their education during the pandemics. There is a need to deploy public funds to fix the internet gap and ensure that students continue to learn digitally.

CONCLUSION

Covid-19 created an immense impact to the education sector of India. It created many challenges, various opportunities. The Indian Government and different stakeholders of education have explored the possibility of Open and Distance learning by adopting different digital technologies to cope up with the present crisis of Covid-19. India is not fully equipped to make education reach all corners of the nation via digital platforms. Financially not good students had suffered due to lack of technology. It is the need of the hour for the educational institutions to strengthen their knowledge and IT infrastructure to be ready for facing any such pandemic conditions like Covid-19 in the future ever.

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SMART HEALTH CONSULTANCY WEB APPLICATION

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ABSTRACT

The Internet has become such a significant “front door” for healthcare providers and hospitals that having no online presence is surprising. However, thanks to technology, there are ways for us to reach our doctor without needing to visit the clinic. With health consultation, you can get the health care you require. So Keeping this in view we are creating a smart health consultation website using react.js which would make things very much simple to the people, where they would be able to view some interesting blog and videos related to health and hygiene and most importantly find and consult a doctor online as per their problem additionally there would be a chatbot which would assist them in doing so.

KEYWORDS: *Health consultant, React.js, Chatbot, Covid Information.*

INTRODUCTION

Within this Smart Health Consultancy, we are developing a website where the patient would be assisted to get the best medical treatment. This website has been made to ease out the patient’s need to reach out to the doctor for consultation. This website helps in placing the comprehensive and immediate patients’ records at the fingertips of all the healthcare professionals thus making their task more efficient.

Critical characteristics:

- To overcome the traditional approach which is very much time consuming.
- To provide a seamless experience.
- Futuristic approach easy to maintain and monitor.

PROBLEM DEFINITION

As many of we know, most of the people around us don't know the consequences or the disease they are suffering with and most of the disease have same symptoms. In the best case, you are probably going to the medical stores / pharmacist and get the prescription. Usually, even when we go to clinics, we cannot get proper assessments.

What always frustrated us, is that if we had the proper knowledge of what type of doctor to visit, it would have made the decision so much easier. What we usually do, getting a sneak pick of what people are doing around us and repeat the same, even if it is not appropriate to our health. Problem that occurs with this is they cannot have proper way to take care of themselves.

Time issue: Giving time every day for health check-up's is very difficult.

Doctor's Availability: Many time doctors and medical staff are not available in every location.

SURVEY OF TECHNOLOGIES

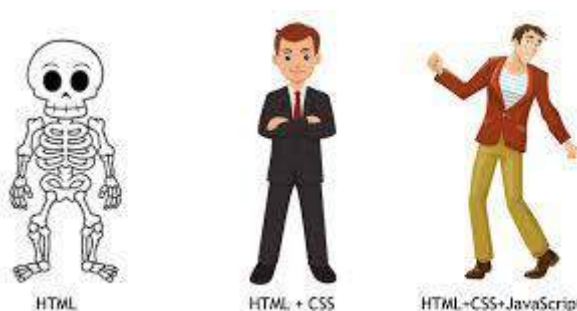
HTML (Hypertext Markup Language) is like a skeleton of the website. It creates the structure. Like which division of the website should be placed were. It uses *tags* to define the structure. Every other language used to develop website is linked inside HTML.

CSS (Cascading Style Sheets) is like the beauty parlor of HTML. It uses its defined properties and it's values to give styling to the selected tags of HTML

Eg. SelectedTag {property: value }

div {height: 200px }

JavaScript is like the nature of the website. How you want that website to work could be defined by JavaScript. For example, on taking the mouse over the button I want a drop-down list to appear from it or I want to change the background color of website on clicking that button etc.



Diagrammatic representation of using the HTML ,CSS, JavaScript
React.js

React.js is basically a JavaScript library built and maintained by Facebook. According to the creator of React.js, Jordan Walke, React is an efficient, declarative, and flexible open-source JavaScript library for building simple, fast, and scalable frontends of web applications. Ever since its launch, it has taken the front-end development space by storm.

Most Loved, Dreaded, and Wanted Web Frameworks

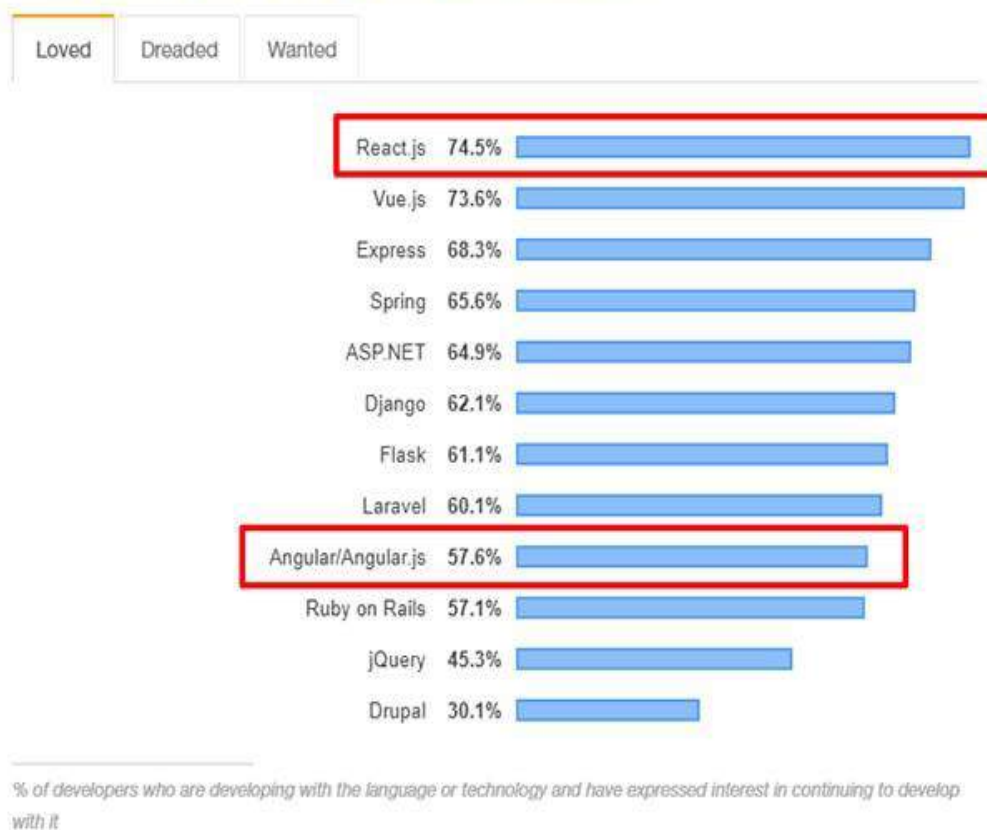


Fig: Survey of frameworks proving react.js most popular among developers

Reasons for selecting react.js over other JavaScript framework:

The React.js offers tons of benefits. Let us see the key benefits of React.js to understand why it stands out from other front-end development frameworks.

Speed:

The React.js basically allows developers to utilize individual parts of their application on both client-side and the server-side, which ultimately boosts the speed of the development process.

In simple terms, different developers can write individual parts and all changes made won't cause the logic of the application.

Flexibility:

Compared to other frontend frameworks, the React.js code is easier to maintain and is flexible due to its modular structure. This flexibility, in turn, saves huge amount of time and cost to businesses.

Performance:

React.js was designed to provide high performance in mind. The core of the framework offers a virtual DOM program and server-side rendering, which makes complex apps run extremely fast.

Usability:

Deploying React.js is easy to accomplish if you have some basic knowledge of JavaScript. In fact, an expert JavaScript developer can easily learn all ins and outs of the React framework in a matter of a day or two.

Mobile app development:

If you thought React.js is for web development only, you could not be more wrong! Facebook has already upgraded the framework for developing mobile native applications for both Android & iOS platforms.

CONCLUSION

As the traditional approach of maintaining paper-based medical records is not only bulky but burdensome in terms of time consumption. A smart health consultancy is a great tool in hospital system to solve all the problems in terms of recording and accessing the information. This system would ease out the problems of the patient as well as the doctors thus making both of their task efficient and pleasing. As this online approach of the organization would help the organization from the business point of view as the patient and doctors needs are been fulfilled with ease. As we are using React.js to develop this web application the few main reason for choosing React.js for development is its easy to learn, helps to build rich user interfaces, It allows writing custom components, It uplifts developers' productivity, It offers fast rendering and so on.

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TOUCH-LESS ATM USING AR

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ABSTRACT

Augmented reality is a relatively new field and is one of the biggest technology trends right now. It will only get bigger as AR ready smartphones and devices become more accessible to the general crowd. AR is somewhat new in the banking industry. Although, some banks have forayed into the VR market AR has mostly been unused in this sector. Using augmented reality in banking can not only increase the efficiency of certain

Operations but also enhance the overall user experience. AR/VR can create a virtual digital Bank branch where customers can be engaged, provide many insights, and a more personalized attention with virtual assistances. It can enable customers with a 360-degree view of their current positions, various status of their requests, new offerings and many more.

KEYWORDS : *Augmented reality, Virtual Reality, Personalized Attention, Banking industry.*

INTRODUCTION

The project aims to make it easier to withdraw money from ATMs without having to make any actual contact with the ATM machine itself. In recent times, the emergence of fewer and deadlier diseases is proving to be a deadly ordeal for us and at times fatal.

Furthermore, contact with infected people and contaminated surfaces can lead to spread of various diseases, as seen with the current COVID-19 pandemic.

The ATM being put up for public use means multiple people use it on a daily basis and it could be a possible area where diseases can easily spread via contact with it.

OBJECTIVES

1. The project will make the use of AR/VR to ensure safe withdrawal of money from ATMs.
2. The use of AR/VR reduces unnecessary contact with ATM machine.
3. Prevent spread of diseases like COVID-19 due to reduced contact.
4. Will help people realize the importance of social distancing in such situations.

PROBLEM DEFINITION

Since the main obstacle we face here is the fact that to withdraw money from the ATM, And to do that we need to touch the keypad. To avoid that we use AR to impose the keypad on a digital image in real time. No additional hardware such as a camera is required for this. Danger of diseases increases as time progresses and it becomes necessary to avoid contact as much as possible. ATMs are often not cleaned up and can accumulate a lot of dust, bacteria and other particles that may or may not be dangerous.

SURVEY OF TECHNOLOGIES

Augmented Reality has a lot of potential to be used in many places. It may make visualizing a certain area much easier to us people depending on how it is used. It will give people an interactive experience of a real-world environment. Often AR is compared to Virtual Reality (VR), let us see some differences between them-

- In VR, the perception of reality is based on virtual information only, whereas in AR users are given computer generated information to enhance their view of reality, which means it is a mix of realities.
- In AR, a part of the user surroundings are definitely real whereas in VR it is entirely fictional and generated.
- AR has the potential to be used in multiple industries, the following are some examples of where AR can be used/is currently being used-
- **Automotive Industry-** Used in the designing of cars before making a physical prototype.
- **Gaming-** AR has it's roots in gaming, an example being Pokemon Go. It is used in e-sports as well to showcase stats.
- **Interior Designing-** Ikea has an app that uses AR to help users select furniture and see how it looks in a room.
- And finally we will exhibit how it can be used in the banking industry as well.
- **Software that can be used to build AR apps-**
- There are multiple applications that can be used to develop AR apps some of them being **ARKit-3, Wikitude, ARCore** and **Vuforia**. But will be making use of **Vuforia** to develop our app for the following reasons-
- It is a very popular toolkit compatible with most operating systems.
- It has both free and commercial versions making it easier for us to choose according to the features we require from it.

- Vuforia is able to do many different things, such as recognition of different types of visual objects (such as boxes, cylinders, and planes), text and environment recognition, and VuMark, which is a combination of picture and QR code.
- All plugins and functionalities of the platform are free to use.

What best AR sdk

					
Platforms	Android, iOS, UPW and Unity Editor	Android, iOS, Windows for tablets	iOS 11+	Android 7.0+, iOS 11+	Android, iOS, Windows and Mac OS
License Type	Free, Commercial	Commercial	Free	Free	Free, Commercial
Smart Glasses Support	+	+	+	+	+
Unity Support	+	+	+	+	+
Cloud Storage	+	+	+	+	-
3D Recognition	+	+	+	+	+
Geolocation	+	+	+	+	-

Jelvix jelvix.com

Figure 1: Comparison between Vuforia and other AR SDKs.

Along with Vuforia we can also make use of **Unity** to make both 2D and 3D objects. Unity is a game engine which can be used to make 2D and 3D games and graphics. It supports 25+ platforms as of now. it has been used outside of gaming such as the Filming and Automotive industries.

SOFTWARE AND HARDWARE SPECIFICATIONS

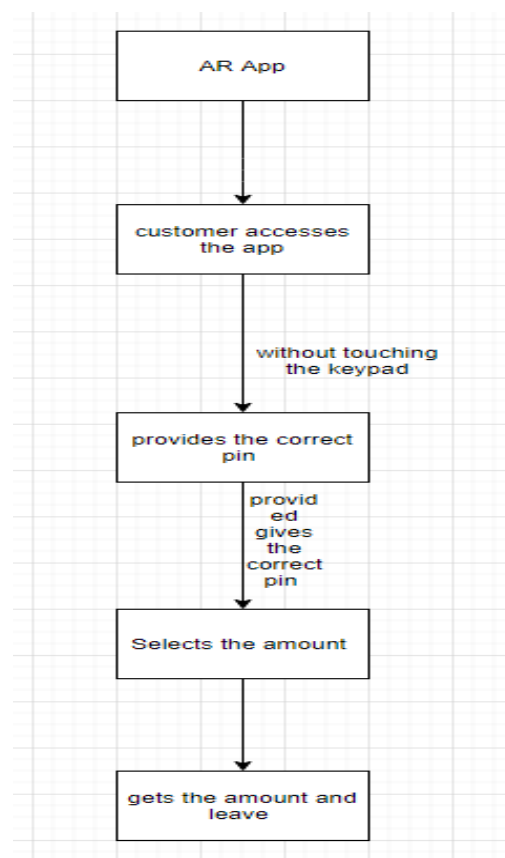
HARDWARE REQUIREMENTS:

- **Node MCU** is an open-source Lua based firmware and development board specially targeted for IoT based Applications. It includes firmware that runs on the ESP8266 Wi-Fi SoC from Espressif Systems, and hardware which is based on the ESP-12 module.
- **Micro Servo MotorSG90** is a tiny and lightweight servo motor with high output power. Servo can rotate approximately 180 degrees (90 in each direction) and works just like the standard kinds but smaller. You can use any servo code, hardware, or library to control these servos.
- **JUMPER WIRES** and **4X4 MATRIX KEYPAD**

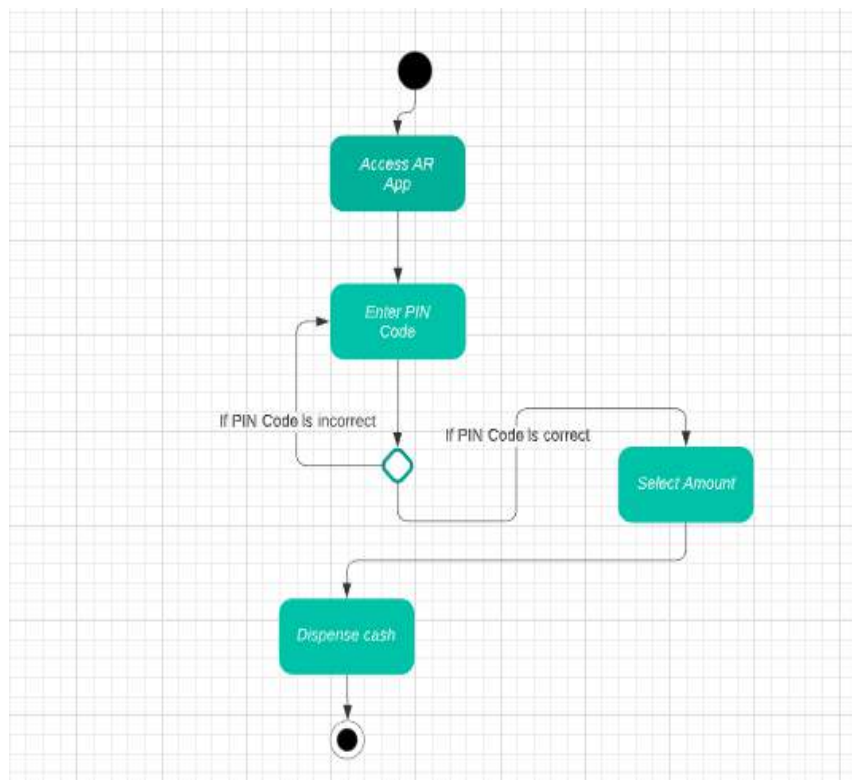
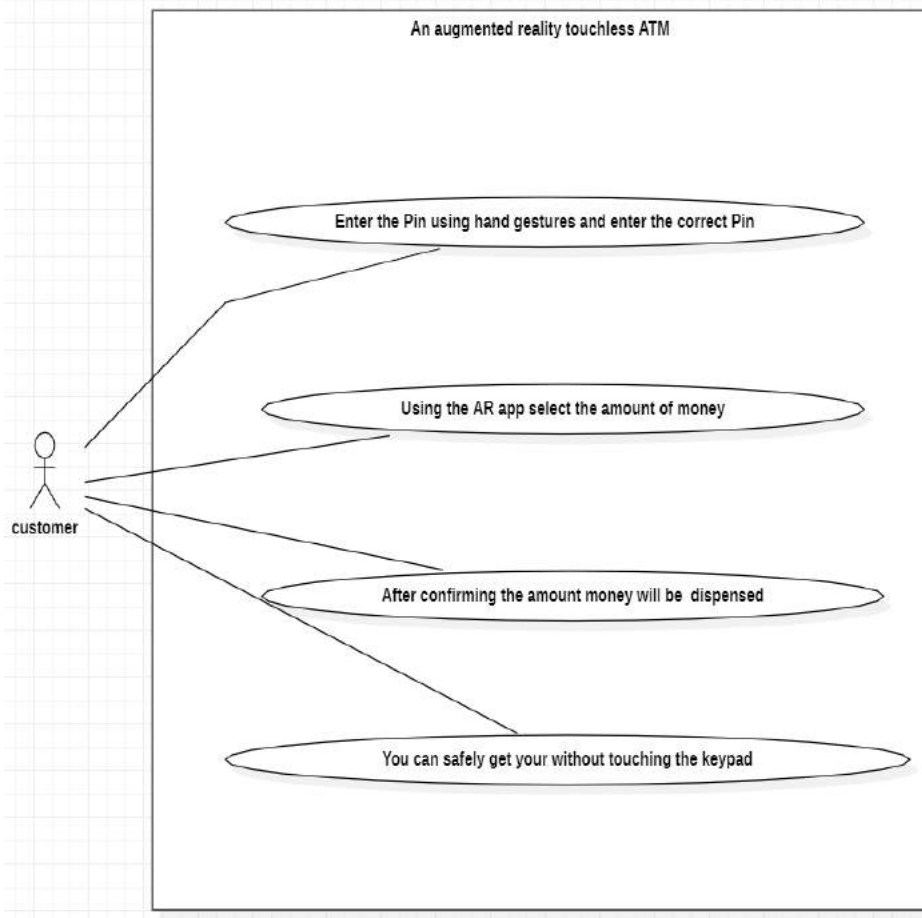
SOFTWARE REQUIREMENTS :

- **Unity** is a cross-platform game engine developed by Unity Technologies, first announced and released in June 2005 at Apple Inc.'s Worldwide Developers Conference as a Mac OS X-exclusive game engine. Unity gives users the ability to create games and experiences in both 2D and 3D, and the engine offers a primary scripting API in C#, for both the Unity editor in the form of plugins, and games themselves, as well as
- drag and drop functionality. Prior to C# being the primary programming language used for the engine, it previously supported Boo, which was removed with the release of Unity 5, and a version of JavaScript called *Unity Script*, which was deprecated in August 2017, after the release of Unity 2017.1, in favor of C#.
- **MQTT** is an open OASIS and ISO standard lightweight, publish-subscribe network protocol that transports messages between devices. The protocol usually runs over TCP/IP; however, any network protocol that provides ordered, lossless, bi-directional connections can support MQTT.
- **The Arduino Integrated Development Environment** is a cross-platform application that is written in functions from C and C++. It is used to write and upload programs to Arduino compatible boards, but also, with the help of third-party cores, other vendor development boards.

Use case Diagram :



Activity Diagram :



CONCLUSION

Augmented Reality shows us another perspective of real world objects and allows us to interact with these objects in a unique and different manner, and as the making of this project shows, we can use it to prevent the spread of diseases by reducing unnecessary contact with real life objects, like the ATM. AR looks futuristic as well if all the right things are done.

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ANDROID CONTROLLED WILD-LIFE OBSERVATION ROBOT

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ABSTRACT

As we probably are aware, presently a days poaching and sneaking of creatures have caused anger to the natural life and has prompted the risk of the greater part of the species. In this manner, we are here for certain new ideas for example Android controlled wildlife Observation Robot. The robot has night vision camera which is being mounted at 360 degrees' point. This permits the client to control the automated vehicle remotely and get required point of this wild creatures. By utilizing this perception robot, we can steadily notice the action that are held in woods lives. Additionally, we can utilize this imaginative framework to draw near film of wild creatures. This module contains raspberry pi-3 CPU unit which is associated with an android unit or a PC utilizing WI-FI. The orders which client will give; it will be brought by raspberry pi circuit mounted on the robot. The raspberry pi-3 at that point measures this information and gives signs to engine drivers to control the robot. The driver engines presently thus work the engines by passing required sign yields to drive the vehicle engines. Additionally, when the raspberry pi-3 gets the camera course change signals, it then advances this sign to the camera module to accomplish required camera points. Hence, this natural life perception robot with night vision capacity framework assists with drawing a nearer perspective on untamed life with the assistance of raspberry pi-3 circuit.

INTRODUCTION

Android controlled wildlife observation robot is an independent robot or android controlled robot utilized of better perception of natural life. Nowadays poaching and smuggling of animals have caused a threat to the wildlife has led to the endangerment of most of the species. Many of endangered species have threat of becoming extinct. Wildlife observers need to get a nearby footage of wild creatures by getting into their environments. Well, it isn't generally protected to draw near to every wild creature. The utilization of programmed gear for noticing natural life has gotten extremely normal and there are a few progressed cameras utilized for this reason. Science field work is profoundly work concentrated; nonetheless, it is getting more refined. There are a huge number of natural life photographic artists investigating the lovely timberlands around us and catching staggering pictures of creatures. To get sublime shots, it gets imperative to keep the camera in places where it might appear to be inconceivable. Customarily, camera traps have been

utilized, which are fixed cameras set off at whatever point a creature breaks an imperceptible infra-red bar. This strategy requires a ton of karma, tolerance and time. Tele-worked and mechanized hardware expands perception potential extraordinarily while simultaneously keeps away from the unsettling influence of human presence. Utilization of new and cutting-edge innovations to make such computerized gadgets. They utilize implanted framework-based robots, night vision camera and innovations like android application, Bluetooth module and servo engine to control them. This framework comprises of a raspberry pi-3 unit utilized for preparing client sent through the rpi transmitter circuit. These signs are gotten by the Raspberry beneficiary mounted on the automated vehicle. The raspberry at that point measures this information and gives signs to driver engines

OBJECTIVE

Android based wildlife observation robots have incredible potential for common natural life and ecological specialists, who could utilize this innovation to aid their data gathering. It turns out to be simple for the eyewitness to find propensities and examples about untamed life we never knew existed.

Human safety for people involved with Wildlife observation is also one of worries in making of this venture. Physically directing the perception strategy is troublesome and unsafe. Likewise, presence of people influences the conduct of the creature and their normal living space isn't known in some cases. Utilizing this robot settles this reason. Utilization of android gadget for the reason makes it advance contrasted with other moving innovation. Also, it gets cost effective and effectively accessible. The application utilized is very basic and straightforward and use by layman. Android sends messages to regulator through Bluetooth module subsequently no issue of systems administration happens. Along these lines, it is additionally appropriate in distant areas. It has inbuilt batteries, so no earnestness of power is required.

PURPOSE

The purpose of our research to provide robot's hardware architecture but powerful computational platforms so that's robot designer can focus their research and tests instead of Bluetooth connection infrastructure. The primary of direction of this task is to create to a far off use interface to control a robot through a remote innovation. There is need to speak with the robot distantly to control the robot developments and pass the basic information the two different ways. The current IR controls are not adequate on the grounds that the robot doesn't have an IR transmitter however just a beneficiary, implying that correspondence is one way. The IR correspondence works just in fine of direct sight and any item in the manner will impede the correspondence. Bluetooth correspondence will empower us to control the robot up to 100 meters without the requirement for direct sight which implies that the robot could be situated behind a divider or some item and the correspondence would not be lost.

SCOPE OF STUDY

- It can be used to get a perfect shot in wild life photography.
- To be available for spying purpose. To tackle any obstacle in front and move on.
- To traverse in such places or areas where humans can't reach.
- To give live location of particular place.

- To sense its current surrounding/ environment.

Here in this framework, one can handle the robot from far off end for example versatile or PC with the utilization of Wi-Fi just as Internet and furthermore we can get the live real time of video from the robot with the end goal of perception, this video is gotten on internet browser of the distant gadget from where we are working the gadget additionally, we can handle the mechanical development. DC engines are being utilized for the development of automated haggles engine is utilized for camera development. Raspberry Pi-3 is utilized for video preparing and sending the handled video to client PC with the Help of Wi-Fi just as web.

No .	Event	Trigger	Activity	Source	Response	Destination
1	Bluetooth connectivity	Bluetooth connection	Enable the robot control	User	Robot controls enabled	Active controls
2	Camera activation	Camera connections	Onscreen visuals	User	Camera enabled	Display screen
3	Obstacles Avoidance	Sensor connection	Avoiding obstacles	User		

PROBLEMS WITH RECENT TECHNOLOGIES

1) Constant threat to human life

Natural life can be perilous to people as known by their environments. In this way, there should be a gadget to keep away from such risk. When we will catch a few snapshots of creatures, we likewise have some threat as one can't draw near to any creatures except if and until they are master in their work or prepared to battle against such risks. While catching some recording of them they may assault or mischief you whenever as everyone needs a few victuals to support in their lives whether it's a human or creatures. Additionally, the conduct of creatures in presence of human is influenced and their genuine conduct isn't known.

2) Current technology lags night vision

Night vision is the capacity to see in low light conditions. Likewise, people have helpless night vision contrasted with numerous creatures. If we see in recent years not very many innovations support night mode where observers can see some live snapshots of natural life and make a decent film if their living spaces in evening. Hence, there should be some methodology made which have sufficient power range and unearthly reach that it can catch night pictures and film of untamed life.

3) Remote location

Numerous models use GSM module and other such advancements for correspondence which makes its utilization restricted as organization issue wins in distant areas. Likewise, regions with restricted admittance, where people are not permitted to enter, makes it hard for experts to manage their job. While working in huge areas, for example, some thick backwoods it gets drawn-out for the individual to switch position for various camera points.

HOW TO OVERCOME THE PROBLEMS?

1) Constant threat to human life

Thinking about the danger to people, there will be robot that is constrained by android gadget. The correspondence is done through Bluetooth module. Thus, one can work the robot from a protected separation from the wild creatures. Additionally, the common conduct of creatures is recorded as they will not know about presence of human around them. The automated gadget can go in regions where people are not permitted and can catch close film of creatures.

2) Current technology lags night vision

Night vision issue can be resolved by utilizing camera having night mode or night vision capacity. This camera when mounted on the mechanical vehicle, it turns out to be simple for the expert to catch the recording around evening time with no danger. Likewise, it gives better catch in dim a lot light for additional perceptions and studies.

FUTURE-ENCHANCEMENT

To increase the range of operation we can use Wi-Fi or ZigBee instead of Bluetooth. We can reduce the size of robot to a miniature model. In future, we can use track wheel arrangement which can be used in any type of environment. The body of the robot can be made of wood so that the animals in the forest cannot easily identify the robot and attack it.

CONCLUSION

This study therefore concludes that if we use Android controlled wildlife observation robot will solve many issues identified with wildlife observation. This will help them save the creatures that are on skirt of annihilation or contribute in assisting them with enduring. It will likewise decrease the danger to people caused when they physically attempt to notice or gather film of risky creatures. This gadget resembles a companion to human. Its simple activity permits each layman to utilize it proficiently. Likewise, it is cost productive to be reasonable by the greater part of individuals needing it. So if this undertaking is carried out it will be a present for the natural life assurance society. A robot can be planned utilizing a Bluetooth module thus the robot can be controlled utilizing Bluetooth android application. This robot can be utilized to notice the natural life creatures and its territory. This will help

them save the creatures that are on skirt of eradication or contribute in assisting them with enduring. It will likewise decrease the danger to people caused when they physically attempt to notice or gather film of risky creatures. This gadget resembles a companion to human. Its simple activity

permits each layman to utilize it effectively. Likewise, it is cost productive to be reasonable by a large portion of individuals needing it. So if this task is executed it will be a present for the wildlife protection security society.

SMART SOLAR DRYER USING IOT SYSTEM

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ABSTRACT

Smart Solar dryer is a very simple form of the solar dryer in which there are 2 trays. All those vegetables that perish quickly or the ones whose prices are low if cleaned, washed, and cut properly, and spread across and sun-dried, then for 1 year at room temperature, these products remain preserved in a really good condition. This dryer is extremely small that is 1 by 1 foot in size and weighing 6 kg. It would help farmers by using it on their farm itself. For which there would be zero requirements of any additional moving components like photo voltage, panels, or batteries. In the topmost plastic layer, there is a particular technology that we have used such that the ultraviolet rays carried by the sunrays get blocked and hence do not reach the food products. Thus 70-80% of nutrition is retained in the product. In addition to that, I am going to connect this solar dryer to a smart phone using IoT. It enables us to monitor the temperature according to the vegetable's type. Farmers will get a notification on their smartphones when the vegetables get dry.

KEYWORDS – *Solar Panel, Temperature Sensor, Drying Fruits and Vegetables.*

INTRODUCTION

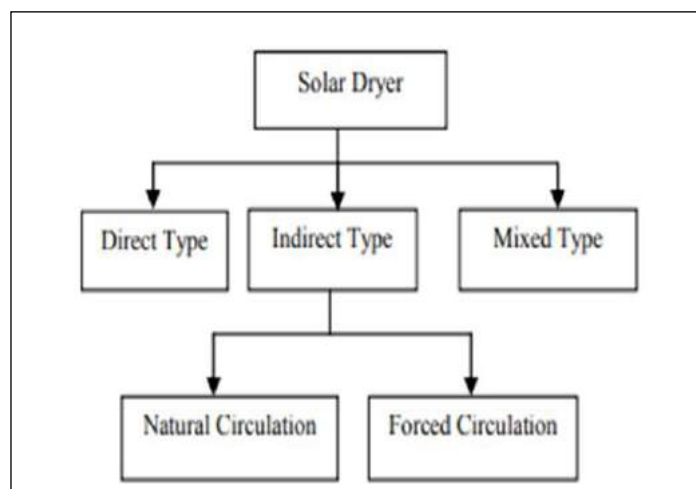
The balance between increase and food supply, food losses during harvesting and marketing should be minimized. The standard and quantity of agricultural produce suffer because of poor processing methods and lack of storage facilities. Many developing countries suffer considerable losses on the agricultural front. It's mentioned that post harvesting loss of fruits and vegetables in developing countries is about 50–60% of total production. Drying is one in every of the important preservation techniques for fruits and vegetables. Removing water by drying is that the oldest technique utilized in many applications like pulp drying for creating paper, drying for food preservation, and drying building materials. The energy for drying comes from various sources, namely, fuel, electricity, gas, biomass, and solar power therefore, the subject of this review work comes under the applying of applied energy. These thermal drying methods account for 10–20% of total industrial energy consumption within the developed world.

Solar energy is efficient and an efficient source which provides long-term actions for sustainable development. Drying may be a process of moisture removal from the merchandise. Solar dryer is principally used for drying fruits and vegetables and also the final product is clean and hygienic, if necessary, provisions are made within the setup. It also saves energy and occupies less space. The most importance of solar dryer is, it protects the environment by not releasing CO, carbon di-oxide, oxides of nitrogen and other smokes as combustion engine and power plants release. It also

enhances the soundness of the merchandise, minimizes packaging problem and also reduces weight and value of transportation. plenty of food products is dried through solar drying. Fruits like grapes, apples, pineapples, banana, dates, beets, mangoes, etc., and vegetables like tomatoes, onions, potatoes, carrots, etc., and grains like wheat, rice, maize, corn, etc., herbs and spices like chilies, tulsi, garlic, neem, ginger, etc., and cash crops - flowers, coffee, tea, etc., likewise as fish and meat is also preserved through drying.

Drying plays a very important role in improving the standard of any products resulting in a much better marketability of the merchandise and increases its storage life. When the materials to be dried happen to be agricultural product, the drying becomes rather more important, because the chances of spoilage of the merchandise through the activity of microorganisms are very high. As drying is an energy intensive process, use of conventional energy sources might not a desirable choice. When hygroscopic material is exposed to air, it will either absorb moisture or desorb moisture depending on the ratio of the air.

The equilibrium moisture content will soon reach when the force per unit area of water within the material become capable the partial pressure of water within the surrounding air. The equilibrium moisture is, therefore, important within the drying since it is the minimum moisture to which the fabric can be dried under a given set of drying conditions. the current study involves a solar dryer, within which the solar power is collected by solar collectors and transferred to the drying medium which is air. Solar dryers are classified into three main categories, as shown in Figure 1



During this paper temperature sensor to observe the temperature consistent with the vegetable's type and acquire notification on the smart phone when the vegetables get dry using IoT system. The SHT may be a single chip ratio and temperature multi sensor module that delivers a calibrated digital output. The device includes a capacitive polymer detector for ratio (RH) and a band gap temperature sensor. Both are seamlessly coupled to a 14-bit analog to digital converter and a serial interface circuit on the identical chip. Eight sensors were located at different positions: at reflector inlet and outlet, and several other locations inside the drying chamber. The sensors were connected by wire to a board with a PIC (Peripheral Interface Controller) microcontroller. Within the PIC the signals are multiplexed and so sent to a smartphone.

RELATED WORK

The MAD [1] architecture want to upload the data associated with the agriculture to the cloud. the information (weather, moisture content, soil information etc.) collected from GPS and sensors are uploaded to the cloud. This information is going to be provided to the farmer through an application. The LMD (Labour Monitoring Device) which is employed to monitors the labor activity in field and the number of crops harvested by the labor. LMD [2] consists of RFID reader, CU (Computational Unit), GPS, and weighing balance. A labor is going to be given a wrist elastic device during which a singular RFID number are going to be embedded. With the assistance of weighing balance and computational unit the number of crops harvested by the labor are calculated. This information is going to be uploaded to the cloud by the LMD. IT infrastructure [3] for agriculture consists of research part (computer network with software's) and storage devices. the data associated with soil, temperature, crop information etc. are collected using sensors and cameras. The collected information are going to be stored in storage devices and this can be analyzed in analyzer part by agriculture experts. PDCA (Plan-Do-Check- Act) and cloud services is used rather than deploying an IT infrastructure. Where the data collected by different sensors and cameras is uploaded to the cloud for the analysis. He also discusses about the benefits of deploying cloud services in agriculture over IT mechanism to support agriculture operation. The solution [4] are often given to the farmers through SMS. the answer consists of client stub and a server stub. Server stub consists of group of application (message process, query process, database and analytical process) which receive the queries from client stub and deliveries the info to the client stub. The server stub contains the data about crop, fertilizers, water management, crop protection, and weather and agriculture implementation. A system using technological development in wireless sensor networks that's Programmable System on Chip (PSOC) [5], which may monitor and control greenhouse parameter of precision agriculture by conducting several experiments. the look of this method is to avoid irregular distribution of water to the crops within the field. The potential transpiration rate is very important for healthy plant growth [6].

the rationale for the transpiration fall rate below the potential value is thanks to variations in soil moisture level. After conducting an experiment for the soil moisture, which affects the transpiration process when fall below the potential rate with different graphical representation. A wireless sensor network [7] is as an alternate and efficient thanks to solve the agriculture issues for monitoring agriculture parameters like temperature, humidity, etc., for the précised agriculture methods. Here, the focus is on the hardware and specification, and software process control for the precision agriculture system. A system [8] for an intelligent farming composed mainly two parts in Intelligent Farming (IF) that's sensor system and control system accustomed monitor and control the farm field. The new technology used for this can be Internet of Things (IoT) to observe and control useful information from the farm field to the owner/farmer. The architecture for IF and also the information decision is calibrated by using Kalman filtering, to watch weather of farm field.

RESERCH METHODOLOGY

In proposed scheme, the interesting aspect to help the rancher by presenting IoT based precision agriculture framework for Solar System. We are using temperature sensor to sense the temperature according to the vegetable's type. A temperature sensor is an electronic device that measures the temperature of its environment and converts the input data into electronic data to

record, monitor, or signal temperature changes. There are many different types of temperature sensors. Some temperature sensors require direct contact with the physical object that is being monitored (contact temperature sensors), while others indirectly measure the temperature of an object (non-contact temperature sensors). I also convert the Celsius temperature in Fahrenheit with the formula that I think all of you are familiar with in the proposed scheme, the interesting aspect to assist the rancher by presenting IoT based precision agriculture framework for the system. We are employing a temperature sensor to sense the temperature consistent with the vegetable's type. A temperature sensor is a device that measures the temperature of its environment and converts the computer file into electronic data to record monitor or signal temperature changes. There are many alternative varieties of temperature sensors. Some temperature sensors require direct contact with the object that is being monitored (contact temperature sensors), while others indirectly measure the temperature of an object (non- contact temperature sensors).

The components used are:

1. IoT kit
2. temperature sensors
3. Internet connection
4. Cloud account
5. Arduino IDE

ALGORITHMS

Begin

Step 1: initialize temperature sensor.

Step 2: Compare threshold value received with initial values.

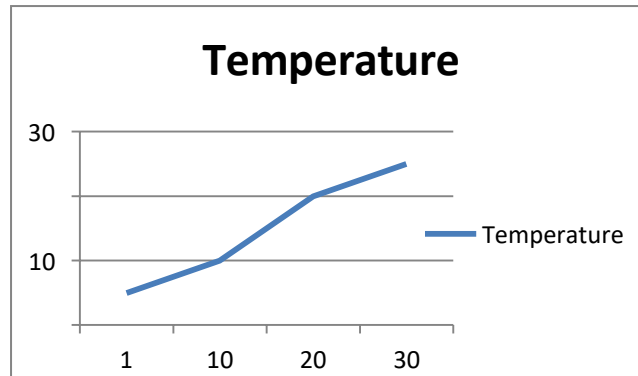
Step 3: convert Celsius temperature in Fahrenheit with the formula that I think all of you are familiar with $((\text{temperature } c) * 9.0 / 5.0) + 32.0$.

Step 4: temperature will 25 degree Celsius then send the notification on farmer mobile Phone.

End

RESULT ANALYSIS

The temperature is one of the important parameters in a smart solar dryer; the temperature should be maintained maximum. Because the temperature helps to get vegetables dry. Temperature sensors monitor the temperature according to the vegetable's type. Farmers will get a notification on their smartphones when the vegetables get dry.



Temperature Range inside smart solar dryer

CONCLUSIONS AND FUTURE SCOPE

IoT is widely utilized in connecting devices and want to gather information. The system is meant to watch the temperature consistent with the vegetable's type. Data stored on Cloud. Farmer got temperature notifications on their smartphones. during this way, the system helped farmers to avoid a physical visit to the scheme. The project is dispensed with the assistance of an IoT kit and internet connection. The future work is often controlling and monitoring the smart solar dryer using smartphones with the assistance of IoT Technology.

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ADVENT OF ICT IN THE FIELD OF TELEMEDICINE- INDIA

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ABSTRACT

A general overview of the emerging wireless and networking technologies and their use to promote the goal of global health. Telemedicine involves the provision of health care and sharing of medical knowledge using telecommunications technologies. Preventive, diagnostic, and therapeutic services, as well as patient education and assistance with self- management of health, can be provided via telemedicine. It is not a technology or a separate or new branch of medicine. This technology involved in telemedicine that allows providers and patients to be almost anywhere, this is one of the key factors in providing quality healthcare to the needy. It allows the patient to consult the doctor online through mobile phones, internet or making it available through video conferencing.

KEYWORDS : *Telemedicine, ISRO's Initiatives, E-health, Services*

INTRODUCTION

Telemedicine is the delivery of health care and the exchange of health-care information across distances. The prefix 'tele' derives from the Greek for 'at a distance'; Telemedicine is the practice of medicine using technology to deliver care at a distance. A physician in one location uses a telecommunications infrastructure to deliver care to a patient at a distant site. In today's world with several advancements made in the medical field still the benefits are available to the privileged field residing mainly in the urban areas. Technology we have means to benefit from the advanced medical sciences to reach even the remote and inaccessible areas. It is known that in developing countries most of the qualified doctor practice in urban centers whereas majority of population live in rural areas. Traditionally, part of the difficulty in achieving equitable access to health care has been that the provider and the recipient must be present in the same

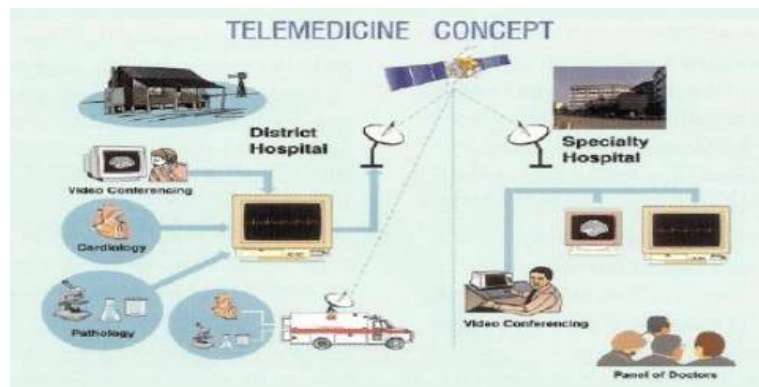
place and at the same and was quickly deployed by those providing and planning for medical care. Recent advances in information and communication technologies, however, have created unprecedented opportunities for overcoming this by increasing the number of ways that health care can be delivered. Telecare is a related term

and refers to the provision, at a distance, of nursing and community support to a patient. Similarly, telehealth refers to public health services delivered at a distance, to people who are not necessarily unwell, but who wish to remain well and independent. In effect, however, despite repeated

discussions about what constitutes telemedicine, telecare and telehealth and what their differences are, all involve the transfer of information about health-related issues between one or more sites, so that the health of individuals and their communities can be advanced. In other words, the information is moved, not the providers or the recipients of health care.

HISTORY OF TELEMEDICINE

In the mid-19th century, telegraphy – signaling by wires – also began the American Civil War to transmit casualty lists and order medical supplies, with later technological developments permitting.



X-ray images to be transmitted. In much of Europe and the USA, the telegraph was rapidly superseded by the telephone as a general means of communication, but in Australia it survived for much longer because of the enormous distances involved. The field of telemedicine has transformed into a complex integrated service used in hospitals, homes, private physician offices, and other healthcare facilities. The concept of telemedicine started with the birth of telecommunications technology, the means of sending information over a distance in the form of electromagnetic signals. Early forms of telecommunications technology included the telegraph, radio, and telephone. Indian telemedicine has changed drastically from its inception. In fifty years ago that a few hospitals started experimenting with telemedicine to reach patients in remote locations. But with the rapid changes in technology over the last few decades, Space

Research Organization (ISRO) as a part of application of space technology for Health care and education, under GRAMSAT (rural satellite) program, has initiated number of Telemedicine pilot projects which are very specific to the needs of development of the society.

IMPLEMENTATION

This is the basic model of mobile application for implementation of applications of Telemedicine. It is developed using Java Programming Language with help of Android Studio. The main task of the application is to help people book their appointments with doctors on desired time slots to consult using video conference.

Step 1: Registration.

Step 2: Booking an appointment.

Step 3: Feedback.

APPLICATIONS

1) Chronic Health Management:

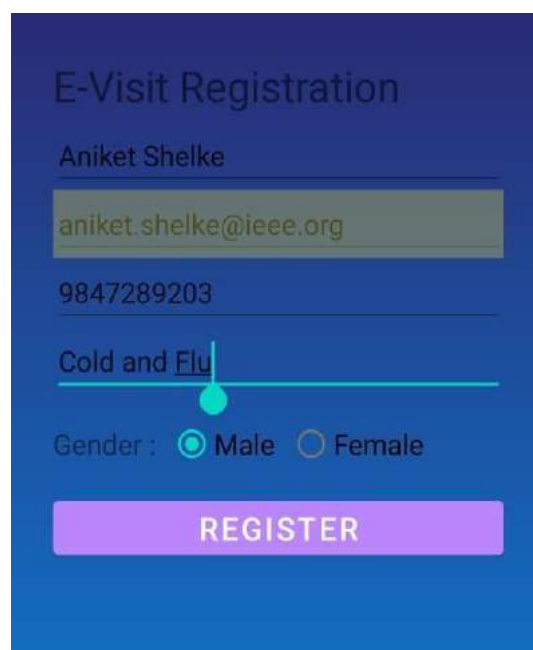
Equip tele-patients with home monitoring systems that have multiple features that you can benefit from, such as weight scales, pulse oximeters, glucometers, and blood pressure cuffs. Readings are logged into personal health records, and alerts are sent wirelessly to health-care providers when readings fall beyond their normal range.

2) Prescription Compliance:

When equipped with e-Prescribing mechanisms, telemedicine becomes the perfect tool to monitor prescription compliance. However, billions are wasted each year in missed or wasted prescriptions, left to expire in your patients' medicine cabinets, so it's important to come up with a reminder system to ensure your patients are taking medication in a timely manner.

3) Store-and-Forward:

Storing-and-forwarding involves capturing medical data, say, diagnostic images or blood analysis results, to be stored and safely transferred to another physician or specialist for remote patient assessment. Telemedicine allows



E-Visit Registration

Aniket Shelke

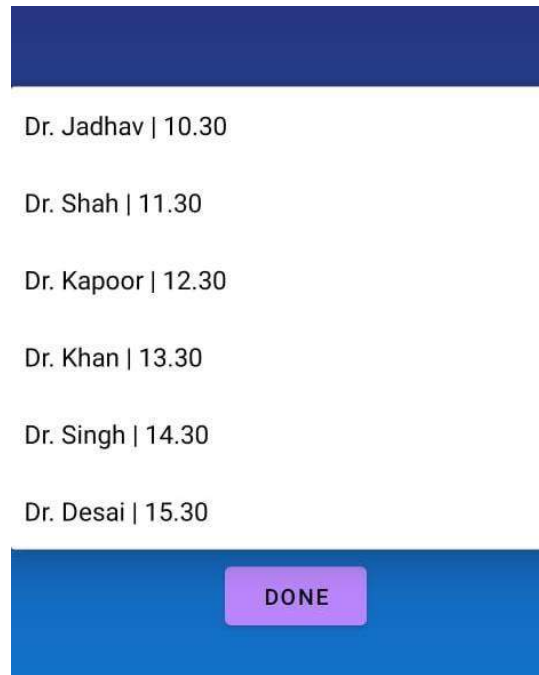
aniket.shelke@ieee.org

9847289203

Cold and Flu

Gender : Male Female

REGISTER



high- resolution diagnostic images to be captured, stored and shared in both real time and at a later date, so it doesn't require the presence of both parties at the same time.

4) Sleep Disorders:

Telemedicine can help with nocturnal disorders like deprivation or sleep apnea. Via telemedicine devices, you can monitor both investigatory and direct treatment. The communicative nature of the technology can provide reports on sleep patterns, body positions and breathing to polish data and metrics and refine treatment courses for patients.

CHALLENGES & SOLUTIONS

1. Limited Access to Broadband Internet: Facilities and health networks may be hesitant to launch a telehealth program if many of their patients lack access to the internet. Many of these consumers live in remote or rural areas, which means they have the most to gain from increasing telehealth adoption. Health systems considering telehealth can use maps and data collected by the FCC to pinpoint specific areas that do not have access to broadband services. Facilities can also apply to the FCC's Connected Care NPRM, the Rural Digital Opportunity Fund, and other government programs that are designed to bring broadband services to underserved communities.

2. Service Awareness:

If your patients are not aware of your telemedicine services, then the service won't get used. With approximately 96 percent of large employers planning to offer telemedicine services to their employees, it's a missed opportunity if your patients aren't aware that you're offering these services. That is why it's important to plan your launch via content marketing and social media marketing to get the word out. Email newsletters, social media, via email newsletters, social media platforms and your blog, if your practice includes one.

3. Patients' Lack of Technical Skills:

When patients do not understand how to use telemedicine services, it can reduce utilization and hamper accessibility. It is a good idea to survey patients before launching your telemedicine services and asking which devices they would be most comfortable using when accessing your telemedicine services. It is equally important to train your staff on using your telemedicine equipment, so they also can help patients who require assistance.

4. Complying with State and Federal Regulations:

Telehealth reimbursement rates tend to vary by state with strict regulations in terms of how this technology can be used, where patients can access telehealth services, and how much providers are compensated for their time. Navigating these regulations can be an uphill climb for some healthcare facilities. To ensure a return on investment, facilities can come up with additional ways to profit off telehealth systems, such as after-hours virtual care, downstream referrals, virtual mental health counselling, and acquiring additional patients, including those outside of the immediate area.

5. Reimbursement:

This restriction is since some providers might abuse the healthcare system or drive-up costs when it comes to telehealth. Now, reimbursement has become the key consideration because we continue to deliver care as fee-for-service. Facilities and health networks can apply for funding through the Public Health and Social Services Emergency Fund. The CARES Act defines eligible healthcare providers as "public entities, Medicare or Medicaid enrolled suppliers and providers," in addition to for-profit and not-for-profit entities specified by the Human and Health Services Secretary.

FUTURE DEVELOPMENT

- Telemedicine will become a standard service offered across all care settings.
- Patients will choose providers, health systems, and hospitals based on telemedicine access.
- Medical facilities that embrace telemedicine will see business and revenue growth.
- Telemedicine will become an efficient option for preventative care.
- Access to specialists will become the norm, which will benefit hospital wait times.

CONCLUSION

While there are many obstacles that may give us pause, we have already seen some positive results of the implementation of telemedicine services. For instance, with the introduction of virtual care there has been a significant decrease in inpatient days and ER use for patients with diabetes. Because telemedicine comprises such a vast quantity of technologies and services, much of its widespread implementation will be an ongoing experiment to determine best practices. The methods and technologies that integrate well into health plans will survive, saving money and expanding care in the long term.

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STEGANALYSIS USING MACHINE LEARNING

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ABSTRACT

Steganalysis and steganography are opposite to each other in nature as in Steganography is the process of hiding messages in media or data files while steganalysis is the process of detecting the presence of hidden messages and if possible, retrieving the said hidden message. Both steganography and steganalysis received a lot of attention, especially from law enforcement. Steganography and Steganalysis can solve the problem of data privacy, copyright, and Malicious data. Data privacy is very important in today's time due to data being transmitted over the internet. Therefore, understanding the ways in which messages are often embedded during a digital medium in most cases in digital images-, and knowledge of state-of-the-art methods to detect hidden information, is important in exposing criminal activity. Since performing steganalysis on a larger scale for instance on RGB images where the data size as well as variety of data is huge would be difficult for individuals. This is where machine learning is viable as machine learning modules can handle huge amount of data easily and effectively.

KEYWORDS : *Steganography, Steganalysis, Machine learning*

INTRODUCTION

Steganography and Steganalysis can solve the problem of data privacy, copyright and Malicious data. Data privacy is very important in today's time due to data being transmitted over the internet. Steganography is used to hide the fact that data which being transmitted is Converted and what is the data that has been in cooperated. Steganalysis is finding the hidden data that has been converted using the concept of Steganography. To detect the existence of a secret message during a binary image. The suspect image may or may not have hidden data encoded into them. To evaluate techniques that can be used to distinguish the images hidden with the secret messages from those

without some of the suspect images may have noise or irrelevant data encoded into them.

SURVEY OF TECHNOLOGIES

A goal of steganography is to avoid drawing suspicion to the transmission of a hidden message. If suspicion is raised, then this goal is defeated. Steganalysis is the art of discovering and rendering useless such covert messages. steganography software that directs the steganalyst to the existence of a hidden message. The steganalyst is one who applies steganalysis in an effort to detect the existence of hidden information and/or render it useless. Two aspects of steganalysis involve the detection and distortion of embedded messages. Detection requires that the analyst observe various relationships between combinations of cover, message, stego-media, and steganography tool. Distortion attacks require that the analyst manipulate the stego-media to render the embedded information useless or remove it altogether. In essence, the activities of observation and manipulation describe two classifications of attacks: passive attacks and active attacks respectively. Hiding information in digital media requires alterations of the media properties, which may introduce some form of degradation or unusual characteristics. The degradation, at times, may become perceptible. These characteristics may act as signatures that broadcast the existence of the embedded message and steganography tools used, thus defeating the aim of steganography, which is hiding the existence of a message. The passive attacks of steganalysis involve the detection of those characteristics and signatures. Manipulating digital media in an attempt to disable or remove embedded messages may be a simpler task than detecting the messages. Any images are often manipulated with the intent of destroying some hidden information whether an embedded message exists or not. Detecting the existence of a hidden message will save time within the activity to disable or remove messages by guiding the analyst to process only that media that contain hidden information. The goal here is not to advocate the removal or disabling of valid copyright information from watermarked images but to means the vulnerabilities of such methods, as they're not as robust as is claimed.

PROBLEM DEFINITION

The information to be hidden is embedded into the cover object which can be a text matter, some image, or some audio /video enter such how that the very existence of the message is undetected by maintaining the looks of the resulted object exactly same because the original. The main goal of steganography is to cover the very fact that the message is present within the transmission medium. Steganalysis is that the practice of attacking steganography methods for the detection, extraction, destruction and manipulation of the hidden data during a stego object. For individuals to analyze a large amount of data and find out whether the given data has been encoded with some information gets difficult. To reduce this amount of work load we have applied Machine learning to reduce the work by implementing Machine learning we can create a model which would be Trained with a large amount of Data. This project has built a model for Image Steganalysis. This model would find out whether the Given image as input has been embedded with information or not.

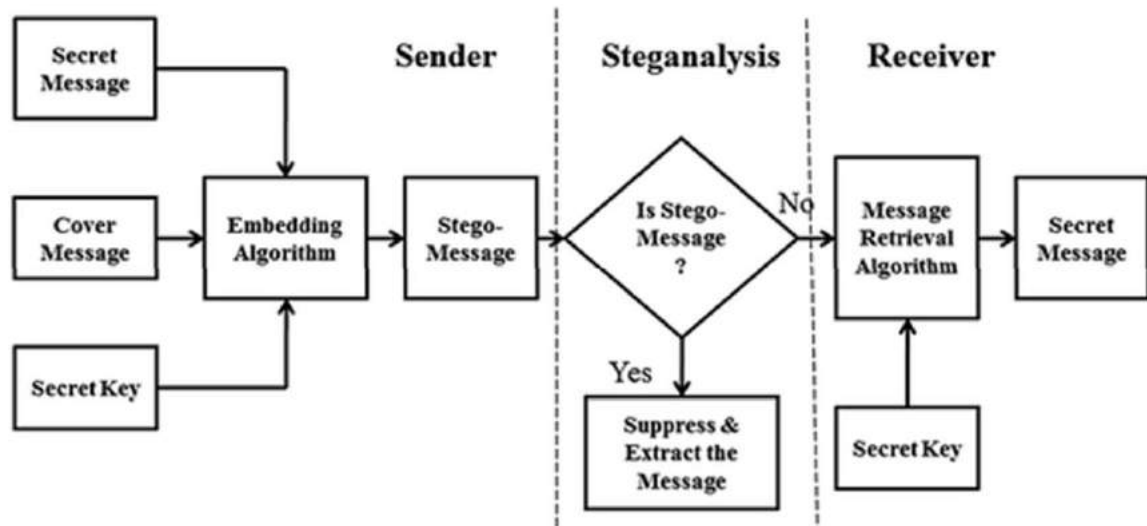
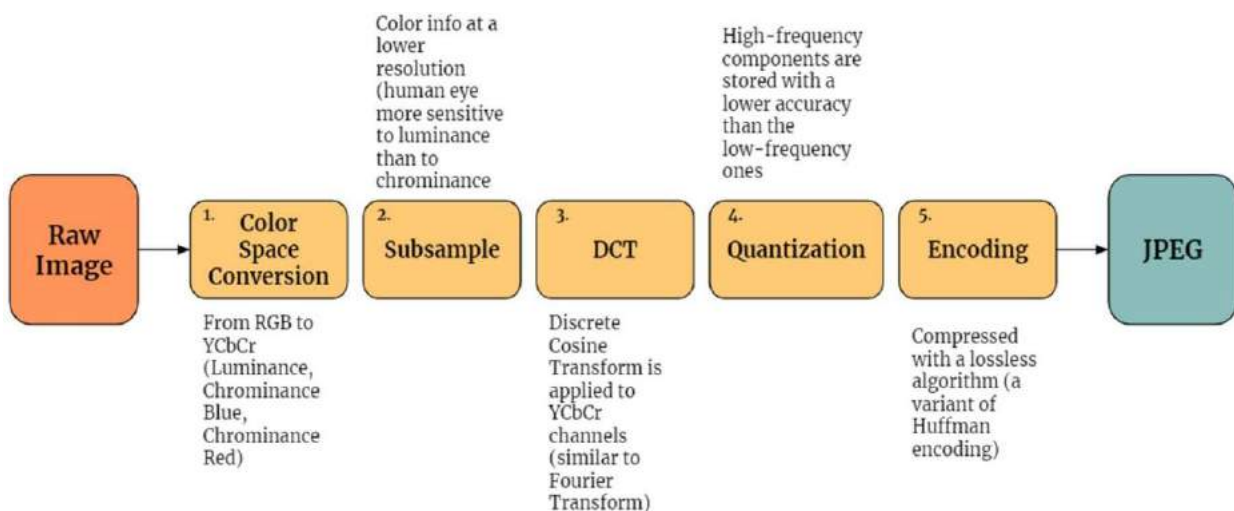


Figure 1: Depicting the process of steganalysis.

The above diagram shows the general process of how steganalysis works. As you can see the cover message and the secret message is send to the embedding algorithm and an stego-message is created. then steganalysis process takes place.

DCT

The Discrete Cosine Transform (DCT) The key to the JPEG baseline compression process is a mathematical transformation known as the Discrete Cosine Transform (DCT). The DCT is in a class of mathematical operations that includes the well-known Fast Fourier Transform (FFT), as well as many others. The basic purpose of these operations is to take a signal and transform it from one type of representation to another. For example, an image is a two-dimensional signal that is perceived by the human visual system. The DCT can be used to convert the signal (spatial information) into numeric data ("frequency" or "spectral" information) so that the image's information exists in a quantitative form that can be manipulated for compression.



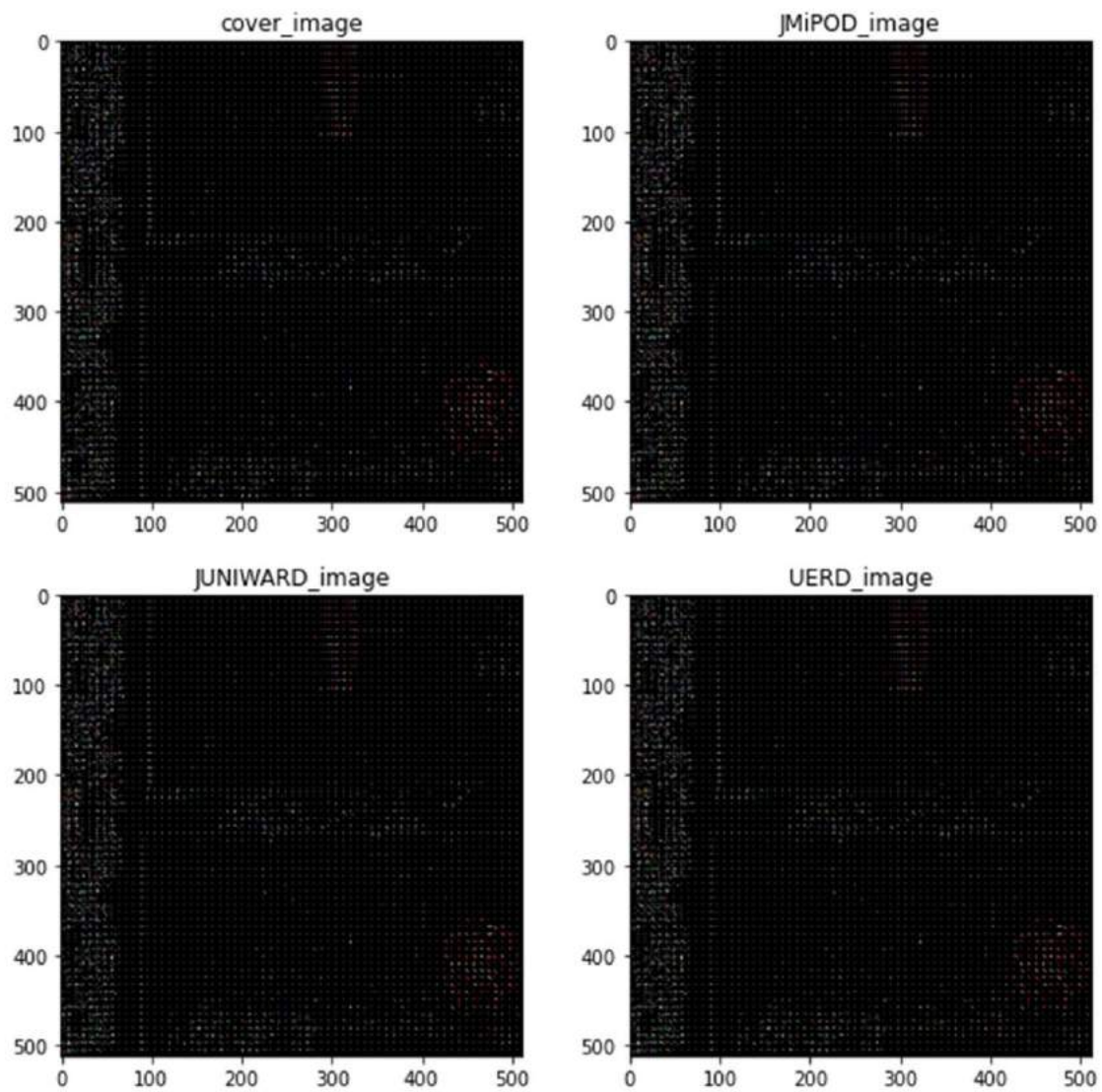


Figure 2: DCT Coefficients of images extracted.

$$F(u, v) = \left(\frac{2}{N}\right)^{\frac{1}{2}} \left(\frac{2}{M}\right)^{\frac{1}{2}} \sum_{i=0}^{N-1} \sum_{j=0}^{M-1} \Lambda(i) \cdot \Lambda(j) \cdot \cos \left[\frac{\pi \cdot u}{2 \cdot N} (2i + 1) \right] \cos \left[\frac{\pi \cdot v}{2 \cdot M} (2j + 1) \right] \cdot f(i, j)$$

The formulas for DCT are given below:

Where:

$$\Lambda(\xi) = \begin{cases} \frac{1}{\sqrt{2}} & \text{for } \xi = 0 \\ 1 & \text{otherwise} \end{cases}$$

N, M are dimensions of input image in 2d.

Result

```
Epoch [1/2], train_loss: 1.228685, val_loss: 0.9810, val_accuracy: 0.5238, auc_score: 0.8105, eval_accuracy: 0.5238
Epoch [2/2], train_loss: 0.965869, val_loss: 0.9925, val_accuracy: 0.5146, auc_score: 0.8107, eval_accuracy: 0.5146
```

Figure 5: Training Stats with GPU

submission2eps-150ktrain-30kval.csv 0.695 0.669

25 days ago by shrekty

[add submission details](#)

Figure 6: Model Accuracy

```
Epoch 1/10
398/398 [=====] - 1897s 4s/step - loss: 0.6993 - accuracy: 0.5283 - val_loss: 0.6586 - val_accuracy: 0.5689
Epoch 2/10
398/398 [=====] - 159s 488ms/step - loss: 0.6599 - accuracy: 0.5669 - val_loss: 0.6443 - val_accuracy: 0.5829
Epoch 3/10
398/398 [=====] - 163s 489ms/step - loss: 0.6458 - accuracy: 0.5822 - val_loss: 0.6365 - val_accuracy: 0.5991
Epoch 4/10
398/398 [=====] - 161s 484ms/step - loss: 0.6268 - accuracy: 0.6089 - val_loss: 0.6426 - val_accuracy: 0.5546
Epoch 5/10
398/398 [=====] - 163s 418ms/step - loss: 0.6169 - accuracy: 0.6192 - val_loss: 0.6169 - val_accuracy: 0.6264
Epoch 6/10
398/398 [=====] - 162s 487ms/step - loss: 0.6075 - accuracy: 0.6383 - val_loss: 0.6192 - val_accuracy: 0.6186
Epoch 7/10
398/398 [=====] - 162s 487ms/step - loss: 0.5997 - accuracy: 0.6368 - val_loss: 0.6196 - val_accuracy: 0.6123
Epoch 8/10
398/398 [=====] - 164s 411ms/step - loss: 0.5925 - accuracy: 0.6462 - val_loss: 0.6888 - val_accuracy: 0.6199
Epoch 9/10
398/398 [=====] - 164s 411ms/step - loss: 0.5983 - accuracy: 0.6471 - val_loss: 0.6397 - val_accuracy: 0.5982
Epoch 10/10
398/398 [=====] - 162s 486ms/step - loss: 0.5826 - accuracy: 0.6590 - val_loss: 0.6125 - val_accuracy: 0.6213
```

Figure 7: Training Stats with TPU

When the model was trained for 2 epochs using a GPU with half the data [Only half the data was used since training time for a single epoch took hours]. Though the auc score is high when the model is evaluated with data when it has been never fed before prediction accuracy falls sharply.

submission (14).csv 0.743 0.760

just now by shrekty

[add submission details](#)

Figure 8: Model Accuracy

When the model was trained with a TPU with the entire data not only the accuracy greatly increased also the time required decreased substantially.

CONCLUSION

Steganalysis can be performed with higher accuracy using machine learning. With further training and using models more compatible for machine learning like SrNet we can achieve even better results. So to build upon this and increase accuracy we can train the entirety of the data in SrNet as it is specifically created for steganalysis.

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SMART TRAFFIC MANAGEMENT SYSTEM WITH REAL TIME ANALYSIS

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ABSTRACT

These Traditional Technology of actual density in traffic on a specific road there by Red light delay this system ensure traffic light response to real time of traffic allows proper management of time and resources. The first traffic light was invented in London in 1868 to control cause of horse carriages. it was operated manually works but today it work on electricity very smooth movement traffic. This system works like clockwork with the light changes at regular interval. The main purpose of system allocate each road based on amount of traffic. The amount of traffic on signal classified under three levels low, medium and high, these level are determine by Arduino based on inputs received from the Ultrasonic sensor.

INTRODUCTION

A city is a complex system which consists of many interdependent subsystems where traffic system is one of its important subsystems. A study says it is the cornerstone of the world's economy moreover it is also declared as one of the major dimensions of the smart city With the rapid growth of the population of the world the number of vehicles on roadways is increasing consequently the rate of traffic jams is also increasing in the same manner Traffic jams are not just wasting time but in some cases it is witnessed that criminal activities like mobile snatching at traffic signals also happen in metropolitan cities On the other hand it is not only affecting ecosystem badly but the efficiency of industries is also being affected.

It is therefore identified that active traffic management is a necessity. In majority countries traffic is managed through fixed time signals whereas in large cities of some developed countries traffic is managed through centrally controlled signal broker Due to using heavy hardware it is difficult to manage and become costly Synchronizes the flow dynamically Sensors were used to detect the traffic, where vehicle to vehicle and vehicle to infrastructure communication was done by using wireless communication device.

PURPOSE

The proposed system, shown in Figure is designed to govern traffic at road networks, sensing

through sensors, surveillance cameras, and RFIDs which are embedded on roadsides. The system works in a distributed manner,

It processes sensors' data at the node level and videos' data at the local server, calculates cumulative density to regulate the traffic according to density. In addition to this, it also tackles emergency vehicles such as ambulance, fire brigade. it also helps the users to know the congestion status at a road through prediction. The system is divided into three layers. A) Data Acquisition and Collection layer. B) Data Processing and Decision-making layer C) Application and Actuation layer.



REQUIREMENTS & ANALYSIS

Hardware Requirement :-

It Work on Arduino Uno sends a signal on IoT platform where to stored useful for analyzing traffic density area

in particular Patten

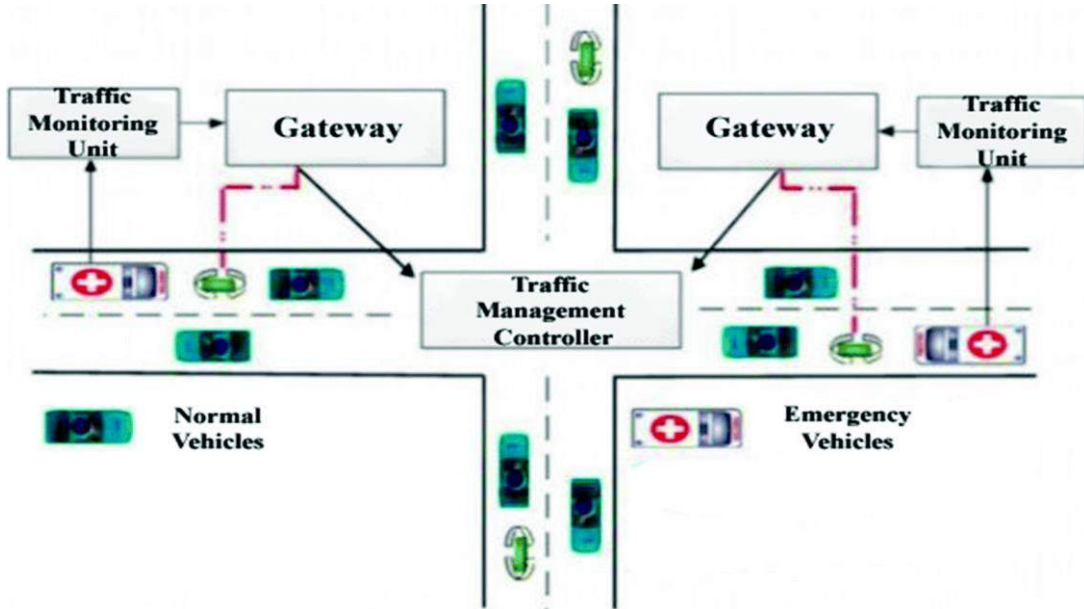
Software Requirement :-

This particular Project will run program & execute under Arduino IDE (Integrated Development iEnvironment) Shell

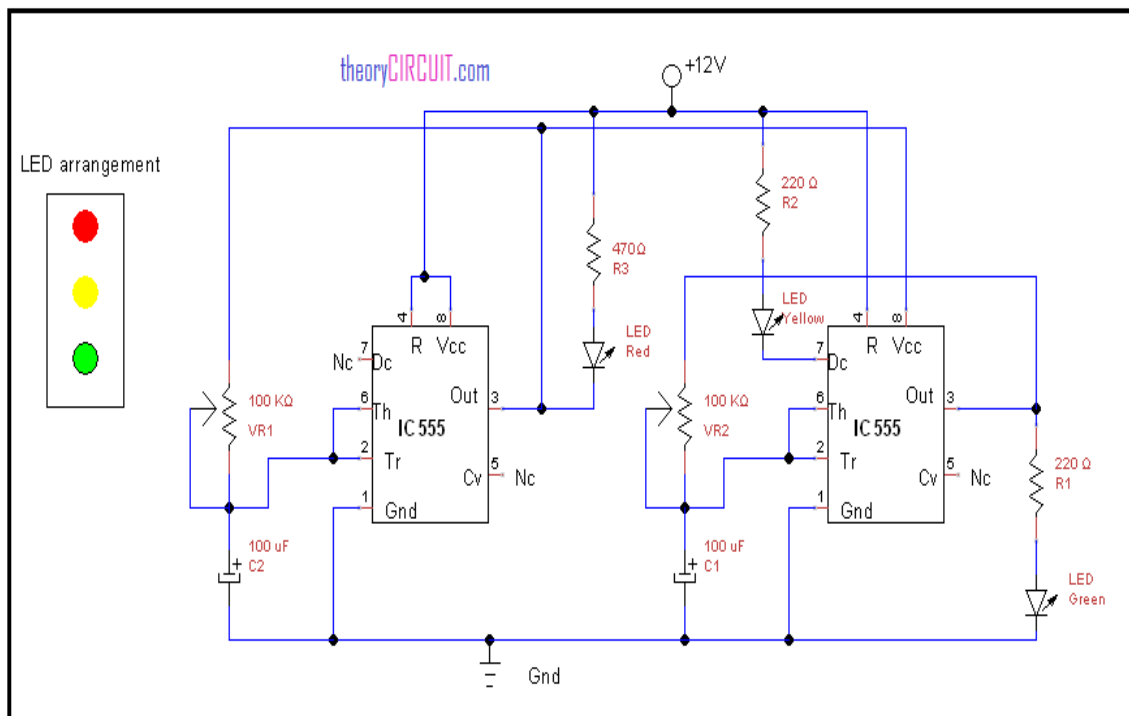
Language and platform:-

We are using very simple Language for the project that is user friendly easy code and find out error if occur i.e. Arduino The Python can run on any platform such as Windows, Linux, MacOS, etc. are there

Block diagram of traffic management system



Circuit Diagram



SPECIALTY & ADVANTAGE OF PROJECT

Special for future scope This project still has space for improvement and can be extended by displaying traffic data in an application that can be accessed by the public. In addition the system can be made more efficient by using a camera with by replacing the HCSR04 ultrasonic sensors with industrial grade sensors that serve the same purpose. Further changes can also be made to the system that permits emergency vehicles to be given the highest priority in any situation.

Advantages of project is this Arduino Uno Smart Traffic system is a very effective system for managing Traffics, especially when the Ambulance is on the road. So that Traffic management system becomes easy. And many more are there since it is so useful in day to day life.

CONCLUSION

This research presents an effective solution for rapid growth of traffic flow particularly in big cities which is increasing day by day and traditional systems have some limitations as they fail to manage current traffic effectively. Keeping in view the state of the art approach for traffic management systems a smart traffic management system is proposed to control road traffic situations more efficiently and effectively. It changes the signal timing intelligently according to traffic density on the particular roadside and regulates traffic flow by communicating with local server more effectively than ever before.

The decentralized approach makes it optimized and effective as the system works even if a local server or centralized server has crashed. The centralized server communicates the nearest rescue department in case of an emergency situation which provides timely human safety. Moreover, a user can ask about future traffic level at particular road hence avoiding wastage of time in traffic jams. The system also provides useful information to higher authorities that can be used in road planning which helps in optimal usage of resources.

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Xn0 THE GAME

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ABSTRACT

The Xn0 game can be played by two players where the square block (3 x 3) can be filled with a cross (X) or a circle (O). The game will toggle between the players by giving the chance for each player to mark their move. When one of the players make a combination of 3 same markers in a horizontal, vertical or diagonal line the program will display which player has won, whether X or O. In this paper, we implement a 3x3 Xn0 game in React.js . The game is designed so that two players can play Xn0 using Browser. The program will contain a display function and a select function to place the symbol as well as toggle between the symbols allowing each player a turn to play the game. The program will update after each player makes their move and check for the conditions of game as it goes on. Overall program works without any bugs and is able to use

KEYWORDS: React, Front panel, Block diagram, Control, Graphical programming

INTRODUCTION

Games provide a real source of enjoyment in daily life. Games also are helpful in improving the physical and mental health of human. Apart from daily life physical games, people also play computer games. These games are different than those of physical games in a sense that they do not involve much physical activity rather mental and emotional activities. Getting games to react back to the user of a game has always been long hard question for game programmers. Because, lets just face it, a good game that doesn't challenge the user's ability to play the game doesn't keep the user around very long. This idea can be applied to any form of game that is out there. Board games are never fun when the opponent that he or she is playing doesn't learn or catches on. With today's computers always advancing, programmers are always looking for new ways to make a video game more interesting and challenging for the user.

Xn0 game [1] can be played by two players where the square block (3 x 3) can be filled with a cross (X) or a circle (O). The game will toggle between the players by giving the chance for each player to mark their move. When one of the players make a combination of 3 same markers in a horizontal, vertical or diagonal line the program will display which player has won, whether X or O. The Xn0 game is most familiar among all the age groups. The friendliness of Xn0 games makes them ideal as a pedagogical tool for teaching the concepts of good sportsmanship. The game is a very good brain exercise. It involves looking ahead and trying to figure out what the person playing against you might do next.

PURPOSE

1. An Web app which can fulfill your gaming requirements.
2. Forget about papers and pencil, thus environmental friendly.
3. Fun is a portable story with this type of Web app.
4. With just a browser on your System and play instantly from Website.

SURVEY OF TECHNOLOGIES

Some of Existing Technologies are as follows:

1. Tic-Tac-Toe Google Games
2. <https://playtictactoe.org/>
3. Math is Fun

REQUIREMENT AND ANALYSIS

PROBLEM DEFINATION -

Switching from traditional paper and pencil game to computer-based game in a Web Browser makes the playing experience entirely different for the players. This resistance to change doesn't allow them to adapt to online gaming system, whereas it takes time for them to get accustomed to online gaming system and methods of computer-based game. Internet connection is required. Lack of Computer literacy is a major issue among players today.

FUNCTIONAL REQUIREMENTS -

- Viewer or Player : The users can play the game.

NON FUNCTIONAL REQUIREMENTS -

- Performance requirements: This Web Application should perform same way regardless to its operating system environments .
- Safety requirements: This requirements does not apply for our Web Application as this can't pose a threat in no ways.
- Security requirements: As all the operations are to be done within a single system security is not an issue for this Web Application.
- Quality requirements: Quality has a number of attributes some of the important attributes for this Web Application are :

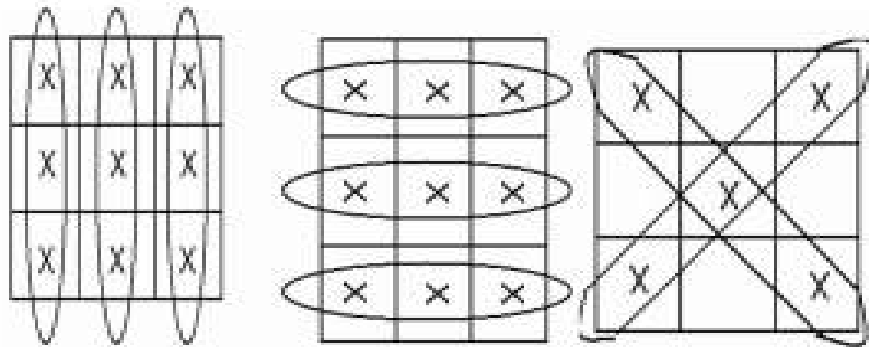
1. Portability: As this Web Application is to work on multiple platforms portability is an essential attribute and we ensure this by using React.js as our programming language.

2. User Training: We assume that the users already have some previous experience in playing with similar games. So the users will not need any specific training for using this software.

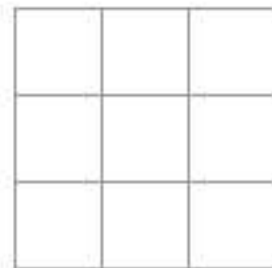
3. Testability: As a basic characteristic the Web Application needs to be testable to ensure correctness.

FIGURES

A.



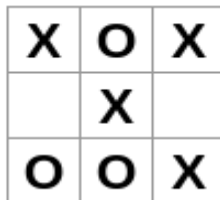
B.



Next player: X

1.

C.



Winner: X

1.
2.
3.
4.
5.
6.
7.
8.

CONCLUSION

We develop and implement The Xn0 game in an event driven GUI software using the platform of the React.js . In this system, we create a 3x3 Xn0 game in React.js . The system is designed so that two players can play a game of Xn0 using React.js Language . The program will contain a display function and a select function to place the symbol as well as toggle between the symbols allowing each player a turn to play the game. The program will update after each player makes their move and will check for the conditions of the game as it goes on. Overall the system works without any bugs and is able to use.

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WOMENS SAFETY SECURITY APP BY USING ANDROID TECHNOLOGY

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ABSTRACT

Now-a-days, people using smart phones have increased more rapidly and hence, a smart phone can be used efficiently for safety of own self and including other security purposes. Security for women has become a major issue as the number of crimes over women and girls increasing in day to day life. This paper shows about women safety and their security by using electronic device such as smart phone to both detect the problem & alert Authorities. This paper gives new ideas to use technology to protect women. We use an android based smart phone with an integrated feature that alert and provide location based Information. This Document describe GPS and GSM based "Women Security System" that provides the combination of GPS devices as- well-as provide alerts and message with an emergency by shaking the phone for 3 to 4 times it Trigger. Whenever somebody is in Trouble They Only have shaken their android device After that a message alert is sent to Register Contact list and give a message "I AM In TROUBLE PLEASE HELP ME" with live location.

Now a day safety of women is becoming very poor with the help of this Application

KEYWORDS: *Women security, Smart phone, Registered contacts, Database, GPS, shaking get triggered , tracing location.*

INTRODUCTION

This application has designed to provide security to women main purpose of this application to provide the awareness on the time of danger situation for women. It reduces the risk and helps us in need by identifying the location of person who is in danger. The best way to stay safe from any of the violence (robbery, sexual assault, domestic violence) is to identify and call on resources to help you out of unsafe situations. Android is the most widely used mobile OS motorised by Linux kernel. It is the first time when a platform which is robust and is expected to get much popularity. The project was development in Android Which Graphical User Interface it provide the level of reliability, availability and compatibility.

PURPOSE

To develop a system for android users for keeping track through several applications. This application is used to track the user in critical situation and send an alert message to the people registered and it is shown in these following two modules:

In the First module it can be the victim's smart phone that is the root device which uses the data connection for tracking the device and location of the user with the help of GPS.

In the Second module can be the mobile phone of registered contacts either police or friends or family members which receives the message containing URL of location of the user.

SURVEY OF TECHNOLOGIES :-

Fight back

Raksha – WOMEN SAFETY ALERT

Street Safe

Guradly

Vith-U App

REQUIREMENT ANALYSIS

Software: - Android SDK and Core Java

Hardware: - Android Device

FUNCTIONAL REQUIREMENTS

Registration page

Name: The user is supposed to enter his name in this section.

Phone number: The user phone number is needed to enter in this section.

Instructions to use

Register guardian phone numbers: 3 phone numbers can be added as guardian.

Internet connection- Connection to internet is mandatory.

User location (GPS) - User location will be tracked once the location is on that particular device

Alert to guardian

SMS: SMS the message will be passed to the guardian as the device is triggered.

With location: message with the live location. **Triggered on shaking the android device:** The device is triggered in an emergency situation just by shaking it. As soon as the the device is shake the sms will be send to the guardian with the live location.

Laws :- Information of laws for women safety to approach the court with proper and basic knowledge about it.

Help:- Videos and tips for self-defence.

NON-FUNCTIONAL REQUIREMENTS

Availability – requirements for app continuous running, for example, 24/7, minimum idle time, etc.

Reliability – app behaviour in case of alarm status, for example, automatic restart and operation recovery.

Portability – this application is portable on 100% devices having any version of android.

Performance – how much time the system is to service and its response time.

Usability – ease to use and user-friendly interface that allow users to freely interact with the product.

Figure:





CONCLUSION

The problem of the women safety is increased rapidly in this environment, so it is an effective Android application to prevent such type of the suspicious or natural disaster. By alerting the concern authorities using the android smart phone to stop the critical or the unwanted things that may make the victim scared.

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ANALYSIS OF ROAD CRACKS USING NEURAL NETWORKS

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ABSTRACT

The purpose of Analysis Of Road Crack & Report is to automate the entire system of handling roads , their data & classifying cracks and also making it's report to the respective departments and also to the citizens . It can also make the process more faster and as it will be Human -Free , it will be error free. It will also make the process interesting and more detailed focus can be given in this.

KEYWORDS : *Report Generation , Cracks Classification , Data visualisation, Machine Learning , Neural Networks.*

INTRODUCTION

With the ever Increasing density of vehicles, The urge for transportation , The developments of new roads , the modern world have come a long way . But also keeping in mind the % of accidents that happen on the road due to cracks , bad weather is huge .Accidents don't only cause harm but leave a huge scar . Proper 24*7 survey is needed and proper maintenance is needed to avoid such accidents . Currently the system is all Pen-Paper- Human work .Our motto and this project relies to make this project completely automated , so the process is 24*7 live and can be made much quicker . Our project focuses on classifying cracks into various types and then deciding their severity and do the further task as per that. The aim of the project is to check the regular maintenance of the roads and bridges and providing an interface which enhances the experience , so more précised focus can be given. The project focuses on the idea of keeping the past data ,checking the roads for cracks. The project is mainly classified into 3 parts .Data cleaning, image processing and sending alert message to users. Within this project it might be easier to look after the roads since automation process tends to make it easier. This w ill also help to alert people who commute through a route for a particular mishap on the road such as cracks ,heavy rain etc.

PURPOSE

- a. The purpose of the project is as follows:-
- b. Keep live Tracking of roads

- c. 24 *7 live surveillance
- d. Weather Reports
- e. Traffic Reports
- f. Data Visualisation for Better Understanding

SURVEY OF TECHNOLOGY

Many image processing projects can be related to this, as image processing may vary as per the data changes , some kind of similar projects are

- a. Finger Print Recognition.
- b. Number Plate Detection.

REQUIREMENT ANALYSIS

PROBLEM DEFINITION -

Well the main problem is as this process will be completely automated it might sometime raise errors. It will require more hardware to be installed & at the same time the cost of this may increase , camera's(with good vision) needs to be installed at particular points , areas such as rural areas may not receive complete 24*7 live support.

FUNCTIONAL REQUIREMENTS -

- a. Data Cleaning: Checking for incorrect or missing data.
- b. Image processing:The application allows user to capture the image and analyse it .
- c. Twilio: Sending alert message to the users
- d. Data saving: The system saves this entry in its excel for later viewing.
- e. Data viewing: The system allows user to view road history as and when needed.

NON FUNCTIONAL REQUIREMENTS -

1. **Performance requirements** : This application should perform the same way regardless to its operating system environments . Time taken for importing images and publishing the reports, presentation should be minimum.
2. **Safety requirements** : This requirement does not apply for our application as this is can't pose a threat in no way
3. **Security requirements**: As all the operations are to be done within a single system security is not an issue for this application
4. **Portability**: As this application is to work on multiple platforms portability is an essential attribute and we ensure this by using python as our programming language.
5. **Testability**: As a basic characteristic the application needs to be testable to ensure correctness.

1. Figures

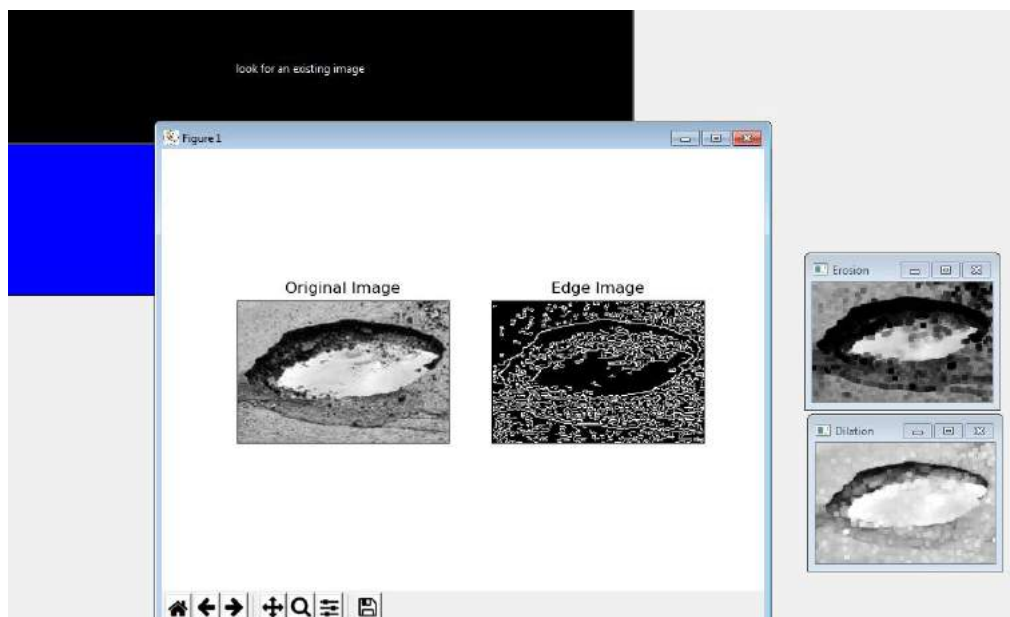
registration form

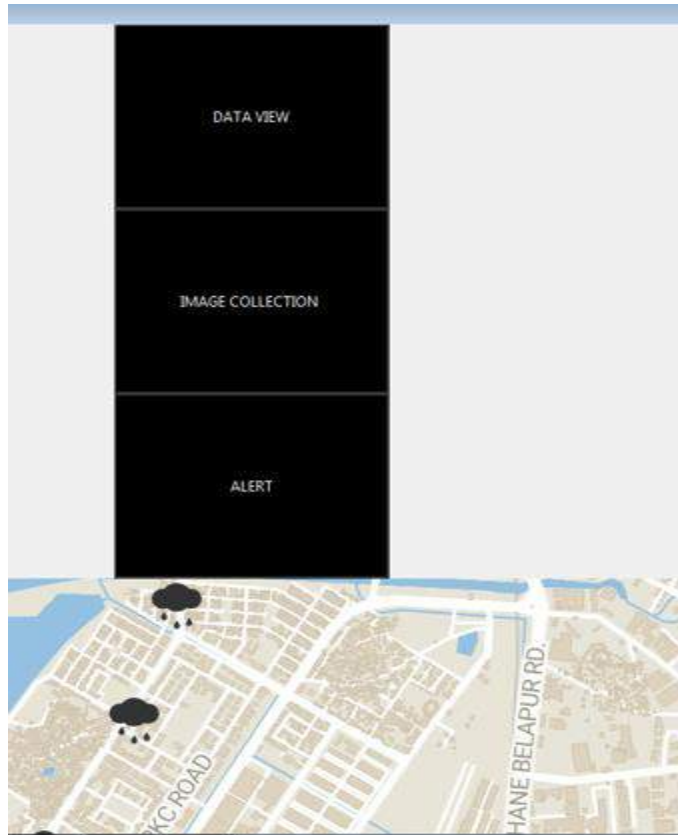
Form

NAME OF BRIDGE	Rajiv Gandhi Sea link
PLACE	Bandra
CONTRACTOR	MSRDC
BUILT ON.	30-June-2009
LAST RENOVATED.	2019
COMMENTS ON LAST RENOVATED	JOR COMMENTS JUST SIMPLE CARE AND LOOK FREE DONE
BUDGET OF LAST RENOVATION	90000000

The screenshot shows the Microsoft Excel ribbon with various tabs like Clipboard, Font, Alignment, Number, Styles, Cells, and Editing. Below the ribbon, the spreadsheet data is as follows:

	A	B	C	D	E	F	G
1	Name of BRIDGE	PLACE	CONTRACTOR	BUILT ON	LAST RENOVATED	COMMENTS ON LAST RENOVATION	BUDGET OF LAST RENOVATION
2	Rajiv Gandhi Sea link	Bandra	MSRDC	30-June-2009	2019	No MAJOR COMMENTS JUST SIMPLE CARE AND LOOK FREE DONE	90000000
3							





8:02 PM



57575701

Marked as Spam by 215 people

5:39 PM

Sent from your Twilio trial account
- Heavy traffic alert

Sent from your Twilio trial account
- Heavy Rain alert

CONCLUSION

- a. It will provide a smooth interface for the users
- b. Data keeping will be easy and therefore will increase the work interest.
- c. It will also help to alert users thus will help in reducing accidents
- d. Automated system will be created intact so the % of Human intervention can be minimal.
- e. Quick decision Making system will help to classify cracks , and by comparing past data it will be interesting to implement algorithms whether for a quick maintenance or just alert users.

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COMMUNICATION USING CHATBOT

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INTRODUCTION

A **chatbot** is a Software application used to conduct an on-line chat Conversation via text or text-to-speech, in lieu of providing direct contact with a live human agent. Designed to convincingly simulate the way a human would behave as a conversational partner, chatbot systems typically require continuous tuning and testing, and many in production remain unable to adequately converse or pass the industry standard **Turing test**. The term "**ChatterBot**" was originally coined by **Michael Mauldin** (creator of the first Verbot) in 1994 to describe these conversational programs. Chatbots are used in Dialog systems for various purposes including customer service, request routing, or information gathering. While some chatbot applications use extensive word-classification processes, **Natural language processors**, and sophisticated AI, others simply scan for general keywords and generate responses using common phrases obtained from an associated library or database. Most chatbots are accessed on-line via website popups or through virtual assistant. They can be classified into usage categories that include: commerce (e-commerce via chat), education, entertainment, finance, health, news and productivity.

HISTORY

The first chatbot ever was developed by MIT professor Joseph Weizenbaum in the 1960s. It was called ELIZA. You'll read more about ELIZA and other popular chatbots that were developed in the second half of the 20th century later on.

In the year 2009, a company called WECHAT in China created a more advanced Chatbot. Since its launch, WeChat has conquered the hearts of many users who demonstrate an unwavering loyalty to it. It is a highly thriving social media platform. Through its platform, it has made it easy to create very simple chatbots. It has grown to be an example of the most favoured ways for marketers and employers to reduce the work they do as to interact with customer online. Though it has implications and is less performing than today's messaging apps such as Facebook Messenger, Slack, and Telegram, it doesn't mean that you cannot construct a very smart bot on WeChat. CHUMEN WENWEN Company, founded in 2012 by a former Google employee, has built a very sophisticated bot running on WeChat.

Early in 2016, we saw the intro of the first wave of artificial data technology in the design of chatbots. Social media platforms like Facebook enabled developers to build a chatbot for their trademark or service so that customers could carry out some of their daily actions from inside their messaging platform. The introduction of chatbots into a community has brought us to the time of the conversational interface. It's an interface that soon won't demand a screen or a mouse. The interface will be entirely conversational, and those communications will be indistinguishable from the conversations that we have with our friends and relatives. To fully explain the massiveness of this soon-to-be reality, we'd have to go back to the earliest days of the computer, when the desire for artificial intelligence technology and a conversational interface first began

PURPOSE

Chatbots are being made to ease the pain that the industries are facing today. The purpose of chat bots is to support and scale business teams in their relations with customers. It could live in any major chat applications like Facebook Messenger, Slack, Telegram, Text Messages, etc.

Chatbots may sound like a futuristic notion, but according to Global Web Index statistics, it is said that 75% of internet users are adopting one or more messenger platforms. Although research shows us that each user makes use of an average of 24 apps a month, wherein 80% of the time would be in just 5 apps. Undoubtedly among them are Facebook Messenger, Snapchat, WhatsApp, WeChat etc. This means you can hardly shoot ahead with an app, but you still have.

APPLICATIONS

- Accessible anytime
- Handling Capacity
- Flexible attribute
- Customer Satisfaction
- Cost Effective
- Faster Onboarding
- Work Automation
- Alternate sales channel
- Personal Assistant

Accessible anytime: Since chatbots are basically virtual robots they never get tired and continue to obey your command. They will continue to operate every day throughout the year without requiring to take a break.

Handling Capacity: chat bots can simultaneously have conversations with thousands of people. No matter what time of the day it is or how many people are contacting you, every single one of them will be answered immediately

Flexible attribute: Chatbots have the benefit that it can quite easily be used in any industry. Unlike other products where you have to do a lot of development and testing to change platforms, chatbots are relatively easy to switch. One has to just train the bot by giving the right conversation structure and flow to switch its current field or industry.

Customer satisfaction: Humans are bound to change of emotions. Chatbots, on the other hand, are bound by some rules and obey them as long as they're programmed to. They will always treat a customer in the perfect way no matter how rough the person is or how foul language the person uses.

Cost effective: Chatbots could help solve this age-old problem. As one chatbot is equal to loads of employees, it can easily communicate with thousands of customers at the same time. We would only need a handful of people to jump into conversations sometimes when necessary. Hence, it would drastically bring down the expenses and bring about a steep rise in revenue and customer satisfaction

Faster On boarding: Chatbots could eliminate that time to almost zero, but provide a very clean and easy to understand conversation flow and structure that needs to be maintained by the chatbot. No doubt there will be changes in this too, but it will rather take a fraction of your time to resolve as compared to human employees.

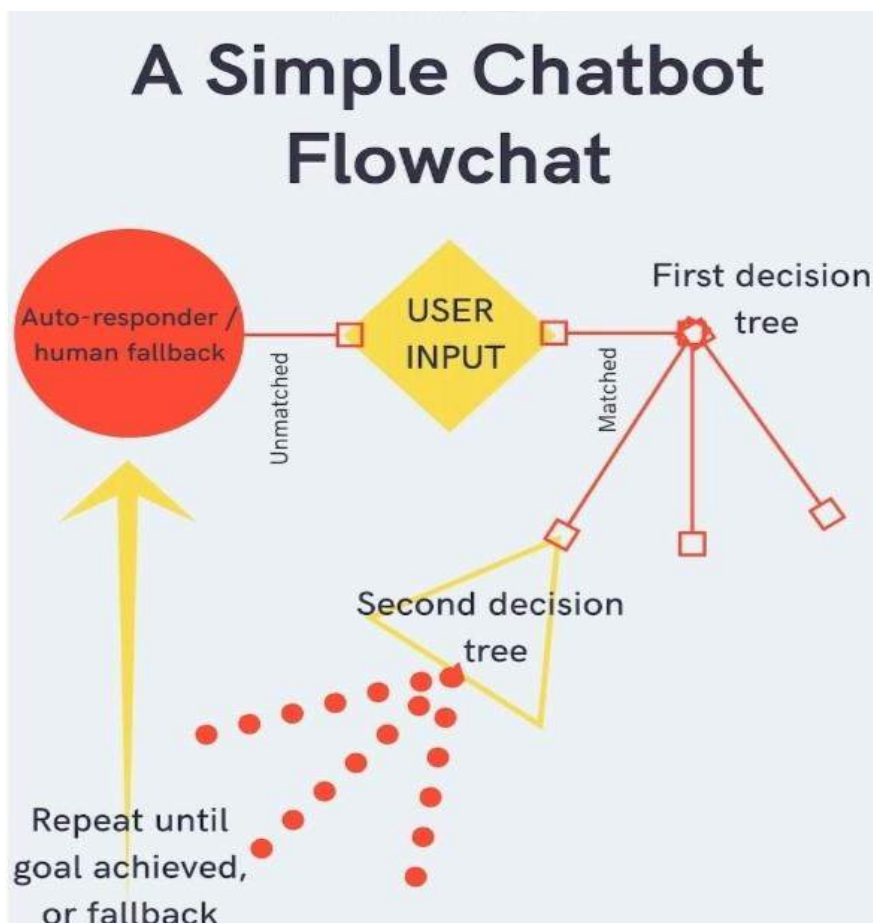
Work automation: Chatbots can now automate tasks which are to be done frequently and at the right time. And now there are already numerous slack bots which automate repetitive tasks. This helps people save time and be more productive.

Personal Assistant: People could use Bots as personal fashion advisor for clothing recommendations, or ask trading tips from a finance bot, suggest places to visit from a travel bot and so forth. This would help the users get a more personal touch from the chatbot.

MODULES

1. **Pyttsx3:** Text to Speech (TTS) library for Python 2 and 3. Works without internet connection or delay. Supports multiple TTS engines, including Sapi5, nsss, and espeak.
2. **Smtplib:** The Smtplib module defines an SMTP client session object that can be used to send mail to any Internet machine with an SMTP or ESMTP listener daemon.
3. **Speech recognition:** Speech recognition is the process of converting spoken words to text. Python supports many speech recognition engines and APIs, including Google Speech Engine, Google Cloud Speech API, Microsoft Bing Voice Recognition and IBM Speech to Text
4. **Wikipedia:** Wikipedia is a Python library that makes it easy to access and parse data from Wikipedia
5. **Datetime:** A date in Python is not a data type of its own, but we can import a module named datetime to work with dates as date objects.
6. **Wolfram alpha:** Wolfram Alpha is a computational search engine that tends to evaluate what the user asks. Imagine asking a question like "What is the current weather in London" or "Who is the prime minister of India". Wolfram Alpha will be able to evaluate the question and respond with an answer like "15 degrees centigrade" or "Narendra Modi".
7. **OS:** The OS module in python provides functions for interacting with the operating system. OS, comes under Python's standard utility modules. This module provides a portable way of using operating system dependent functionality. The `*so*` and `*os. path*` modules include many functions to interact with the file system.
8. **SYS:** The python sys module provides functions and variables which are used to manipulate different parts of the Python Runtime Environment

• **FLOWCHART:-**



WORKFLOW

In the center of the image, we have a user input. This is when the user sends a keyword that triggers the chatbot.

If the message is unrecognizable by the chatbot, we follow the left-side branch and hit the auto responder / human fallback.

A fallback is usually triggered after a user has sent several unrecognizable inputs in a row, again educating the users on the commands they can use.

If the message is a recognizable keyword, the flow follows the right-side branch. This is where you can see the decision-driven interaction between the bot and its user. The bot presents options, the user picks one, then bot then presents the next set of options, and so on.

Ultimately, either the user has reached its destination and found what he was looking for, or the bot's fallbacks have been triggered.

LIMITATION OF CHATBOT

The creation and implementation of chatbots is still a developing area, heavily related to artificial intelligence and machine learning, so the provided solutions, while possessing obvious advantages, have some important limitations in terms of functionalities and use cases. However, this is changing over time

The most common ones are listed below:

As the database, used for output generation, is fixed and limited, chatbots can fail while dealing with an unsaved query.

A chatbot's efficiency highly depends on language processing and is limited because of irregularities, such as accents and mistakes.

Chatbots are unable to deal with multiple questions at the same time and so conversation opportunities are limited.

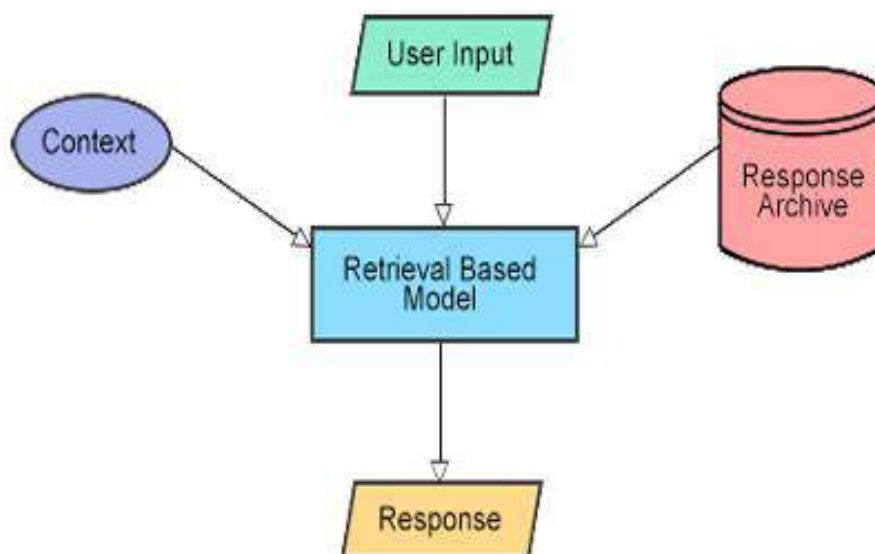
Chatbots require a large amount of conversational data to train.

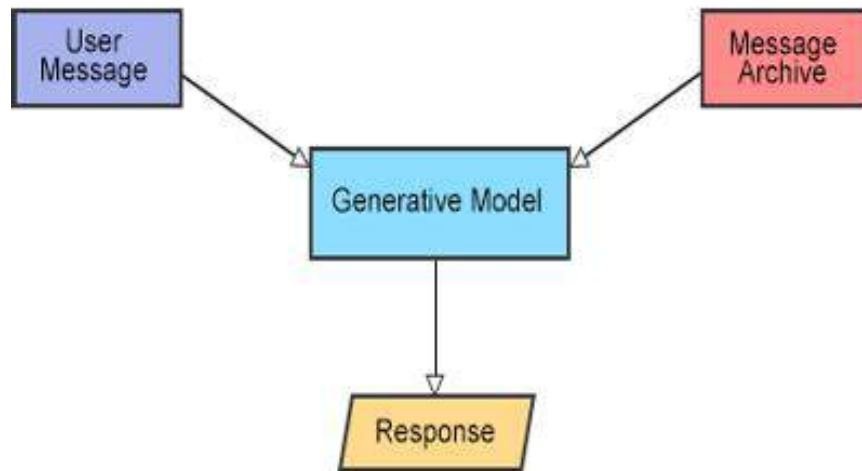
Chatbots have difficulty managing non-linear conversations that must go back and forth on a topic with a user

As it happens usually with technology-led changes in existing services, some consumers, more often than not from the old generation, are uncomfortable with chatbots due to their limited understanding, making it obvious that their requests are being dealt with by machines.

CHATBOT ARCHITECTURE

Retrieval-based model -



Generative-based model -**CONCLUSION**

From my perspective, chatbots or smart assistants with artificial intelligence are dramatically changing businesses. There is a wide range of chatbot building platforms that are available for various enterprises, such as e-commerce, retail, banking, leisure, travel, healthcare, and so On Chatbots can reach out to a large audience on messaging apps and be more effective than humans. They may develop into a capable information-gathering tool in the near future.

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SNAKE GAME USING PYTHON

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INTRODUCTION

Snake is the common name for a video game concept where the player maneuvers a line which grows in length, with the line itself being a primary obstacle.

The concept originated in the 1976 arcade game Blockade, and the ease of implementing Snake has led to hundreds of versions (some of which have the word snake or worm in the title) for many platforms. After a variant was preloaded on Nokia mobile phones in 1998, there was a resurgence of interest in the snake concept as it found a larger audience. There are over 300 Snake-like games for IOS alone.

HISTORY

The Snake design dates back to the arcade game Blockade developed and published by Gremlin in 1976 later it was cloned as Bigfoot Bonkers the same year. In 1977, Atari released two Blockade-inspired titles: the arcade game Dominos and Atari VCS game Surround. Surround was one of the nine Atari VCS (later the Atari 2600) launch titles in the United States and was also sold by Sears under the name Chase. That same year, a similar game was launched for the Bally Astrocade as Checkmate. The first known personal computer version, titled Worm, was programmed in 1978 by Peter Trefonas of the US on the TRS-80 and published by CLOAD magazine in the same year, followed by versions from the same author for the Commodore PET and Apple II. A microcomputer clone of the Hustle arcade game, itself a clone of Blockade, was written by Peter Trefonas in 1979 and published by CLOAD. In 1982's Snake for the BBC Micro, by Dave Bresnen, the snake is controlled using the left and right arrow keys relative to the direction it is heading in. The snake increases in speed as it gets longer, and there's only one life; one mistake means starting from the beginning. Nibbler (1982) is a single-player arcade game where the snake fits tightly into a maze, and the gameplay is faster than most snake designs. It reinvigorated the snake concept, and many subsequent games borrowed the light cycle theme. Starting in 1991, Nibbles was included with MS-DOS for a period of time as a QBasic

sample program. In 1992, Rattler Race was released as part of the second Microsoft Entertainment Pack. It adds enemy snakes to the familiar apple-eating gameplay.

SYSTEM

1. Python 3.7 with Pygame library installed
2. OS: Windows 7/8/10
3. Minimum RAM of 512 MB
4. Storage: 20MB of Available Space
5. Processor: Any
6. Graphics: Any

GAMEPLAY

The player controls a dot, square, or object on a bordered plane. As it moves forward, it leaves a trail behind, resembling a moving snake. In some games, the end of the trail is in a fixed position, so the snake continually gets longer as it moves. In another common scheme, the snake has a specific length, so there is a moving tail a fixed number of units away from the head. The player loses when the snake runs into the screen border, a trail or other obstacle, or itself.

The Snake concept comes in two major variants:-

1. In the first, which is most often a two-player game, there are multiple snakes on the playfield. Each player attempts to block the other so the opponent runs into an existing trail and loses. Surround for the Atari 2600 is an example of this type. The Light Cycles segment of the Tron arcade game is a single-player version where the other "snakes" are AI controlled.
2. In the second variant, a sole player attempts to eat items by running into them with the head of the snake. Each item eaten makes the snake longer, so avoiding collision with the snake becomes progressively more difficult.

NOKIA PHONES

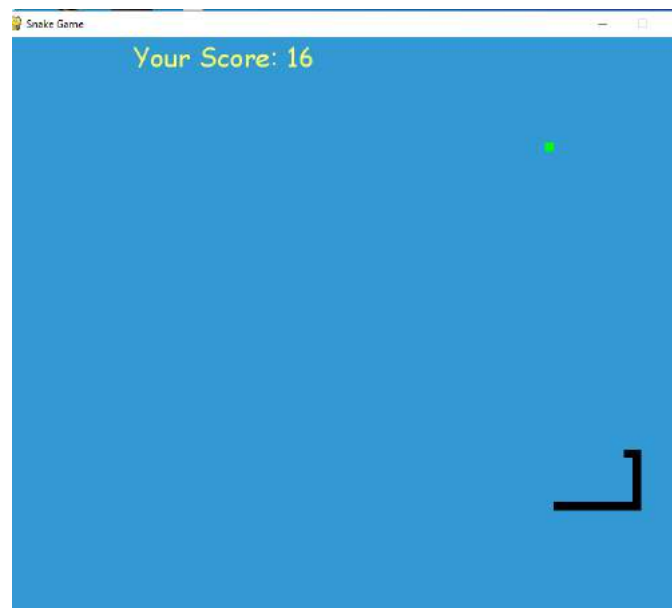
- a. Nokia puts Snake on the majority of their phones, using the actual name Snake:
- b. Snake – The first published by Nokia, for monochrome phones. It was programmed in 1997 by Taneli Armento of Nokia and introduced on the Nokia 6110
- c. Snake II – Included on monochrome phones such as the Nokia 3310 from 2000.
- d. Snake Xenia – Included on later-model monochrome phones (and most cheaper color phones, such as the Series 30 and Series 30+ budget mobile devices).
- e. Snake EX – Included on color phones. First introduced with the Nokia 9290 communicator in 2002. It supports multiplayer through Bluetooth and Infra-Red.
- f. Snake EX2 – Introduced with the Nokia 3100 in 2003 and included in several Series 40 handsets.

- g. Snakes – A 3D version designed for the N-Gage in 2005. It featured multiplayer through Bluetooth. Later Nokia started preinstalling it (without multiplayer) on some Series smartphones like N70, N73, N80, etc. It can be downloaded from Nokia support pages and played on any S60 device.
- h. Snake III – A 3D version, different from Snakes. Snake III takes a more living snake approach, rather than the abstract feel of Snakes. An example of a phone with it installed is the Nokia 3250 from 2005, and it supports multiplayer modes via Bluetooth.
- i. Snakes Subsonic - Sequel to Snakes, released on May 22, 2008 for N-Gage 2.0.
- j. Snake Xenia (2017) - First released on the Nokia 3310
- k. Snake (2017) - Released with Facebook Messenger (2017)

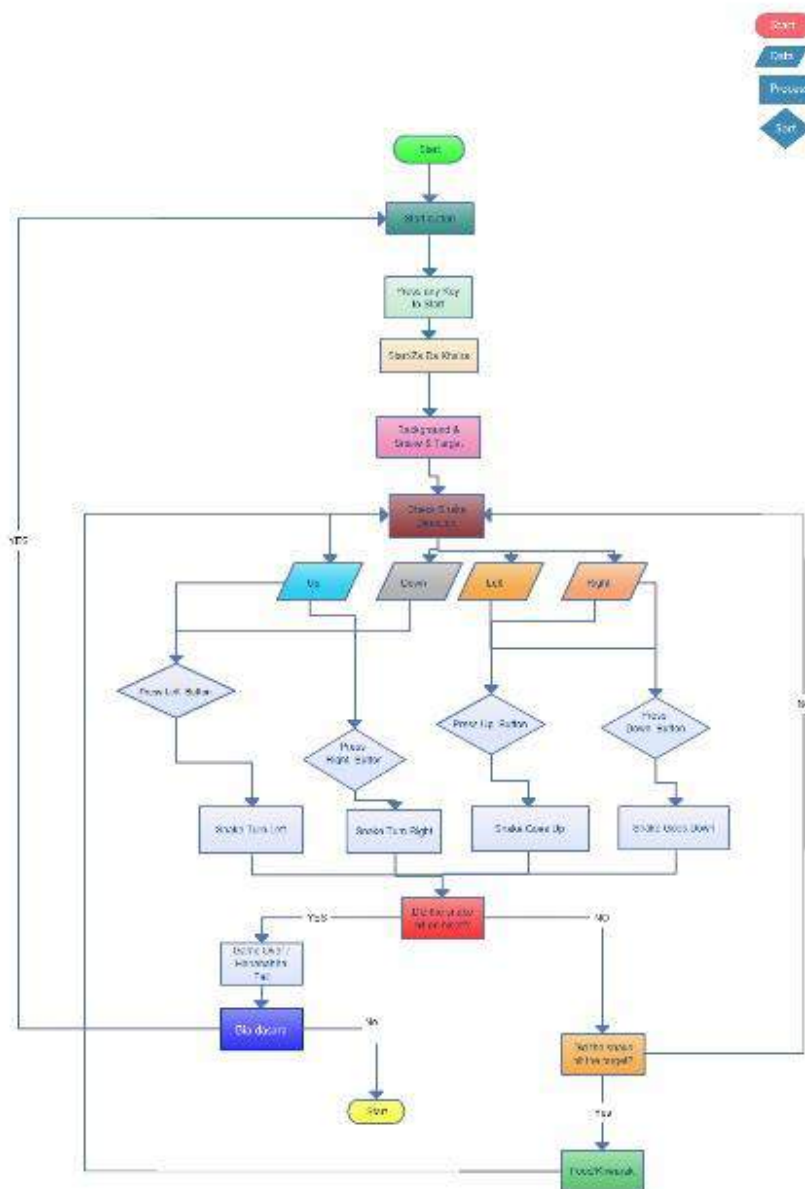


MODULES

Pygame: Pygame is a cross platform set of Python modules designed for writing video games. It includes computer graphics and sound libraries designed to be used with the Python programming language.



FLOW CHART:-



BENIFITES OF SNAKE GAMES

Snake is a classic game that requires players to assess their surroundings and find the quickest or safest route to a point. This is an excellent opportunity to learn about spatial awareness and plan ahead to your next move.

The classic game is infamous for using your own success against you when you become so long that you get in your own way. Whilst many games and activities can teach your child about vital life skills, there are not many that would educate on long term strategic planning.

As many parents will know, it can be extremely frustrating to reach such a high level and then lose as you crash into your own tail. The game requires patience in order to grow and a cool head once you inevitably lose. These are all valuable skills to learn early on in a child's life that will benefit them in later years.

Snake is a tool that can be used as an educational helping hand. One of the important parts of learning is that you will never get something right the first time. *Snake* teaches children that practice makes perfect when it comes to learning new skills.

LEGACY

In 1996, Next Generation ranked it number 41 on their "Top 100 Games of All Time", citing the need for both quick reactions and forethought. Due to the game's numerous incarnations, in lieu of a title they listed it as "Snake game" in quotes.

On November 29, 2012, the Museum of Modern Art in New York City announced that the Nokia port of Snake was one of 40 games that the curators wished to add to the museum's collection in the future.

CONCLUSION

From my Perspective, this game is a stress buster. 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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BLUETOOTH CHAT APPLICATION & R&D ON SELF DISTANCE(COVID-19) USING BLUETOOTH

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ABSTRACT

This application is to spread awareness of COVID-19 and to connect essential COVID-19-related health services to the people of India. This app augments the initiatives of the Department of Health to contain COVID-19 and shares best practices and advisories. It is a tracking app which uses the smartphone's GPS and Bluetooth features to track the coronavirus infection. The app is available for only Android mobile operating systems. With Bluetooth, it determines the risk if one has been near (within six feet of) a COVID-19-infected person, by scanning through a database of known cases across India. Using location information, it determines whether the location one is in belongs to one of the infected areas based on the data available.

KEYWORDS - *Bluetooth Chat Messenger, Android Security System, Android Operating System, Short Messaging Services.*

INTRODUCTION

In recent years, with the development of mobile communication and Mobile terminal, especially the release of Android smart phone platform has injected new vitality to the mobile space. Android is an open sourcing mobile operating system based on Linux which is a completely open and integrated platform for mobile devices. Bluetooth technology is a mature short- range wireless communication technology. The working frequency band of Bluetooth does not need a license around the globe. We are developing app for fight covid-19 using self distance.

This application will show covid-19 Positive cases near yours areas (in future).

PURPOSE

The purpose of this app is to spread awareness of COVID-19 and to connect essential COVID-19-related health services to the people of India.

Individuals and authorities shall remain informed in case they have crossed paths with someone who has tested positive for coronavirus.

- a. It works on Bluetooth-based technology. Absence of internet connectivity won't pose a problem.
- b. The app recommends several measures such as Self Assessment Test, Social distancing, do's and don't.
- c. It informs about the precautionary measures.
- d. Bluetooth Chat will help you to send short messages and images using Bluetooth technology.
- e. You can chat with your friends if you are in the Bluetooth range and don't have access to the Internet.
- f. It will be more helpful for students if there is no Wi-Fi in your school, for traveller's to chat between tents in mountains, and in many others cases.

SURVEY OF TECHNOLOGIES

Some of the existing technologies are as follows:

- Udemy
- Courses
- W3 School
- Codecademy
- Open culture

REQUIREMENT AND ANALYSIS

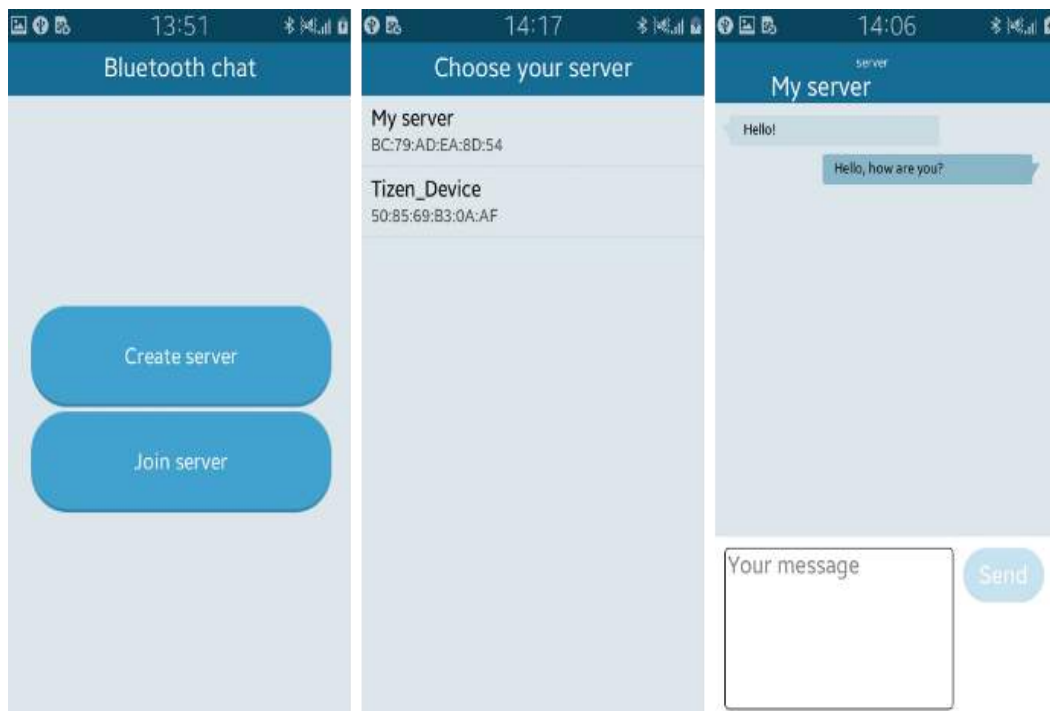
Software:- Android SDK and Core Java

Hardware:- Android Device

FUNCTIONAL REQUIREMENTS

- a. Login
- b. Bluetooth Connection
- c. Bluetooth Chat
- d. Bluetooth Distance
- e. Push Notification

FIGURE :



CONCLUSION

The goal of this app to create android application Chat and Social Distance .this application would take the advantage of the wide spread of the Android operating system.

This application will show covid-19 Positive cases near yours areas (in future)

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PARENT TEACHER ASSOCIATION APP FOR COLLEGE STUDENTS

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ABSTRACT

Android Technology is having a great importance in today's time. Mobile phones have become the vital part of our life. People are using Smart Phones in their day-to-day life and hence there is increase in number of users of smart phones. At One click we get to know every information. Parent Teacher Association App is useful for the made to connect parents, teachers and faculty. Hence this application provides a solution through a simple interface for maintenance of student information and also helps parents to get detailed information regarding their ward such as attendance, timetable, important notice, event and workshops, notes sharing, library, CGPA calculator, result etc. It is useful for parents to gain all the information about the activities held in the college. PTA is very useful for students, parents and teachers. as they can access it from anywhere.

INTRODUCTION

In today's time smartphones have made changes in every field. On touch of a button the world is coming to our fingertips. The mobile era has simplified our life by putting the world in our hands. The heart of smart phones is their Applications. There are lots of free applications available at our services. We can order food, we can pay the bills, we can monitor our health etc.

“ Parent Teacher association App for College Students” is the proposed system which mainly connects the students, teachers and parents with the college using mobile phones. The faculty can enter attendance of students, share notes, share timetable, notices. The students can view those details. The parents can anytime check their child's attendance, result.

PURPOSE

- a. Promotes the welfare of children and youth in school, colleges.
- b. Parents can check their student's progress, timetable, events and activities.
- c. Student can manage their Notes, library details, calculate CGPA, also they can give online Exams.

- d. Also, they can check the lecture time-table, and can able to view results.
- e. Faculty can able to manage notes sharing to the students, completion syllabus status and they can give assignments.
- f. HOD can able to manage all the staff and their lectures. They can share notice which is visible to staff as well as students.
- g. This project has a login page which allows only the registered user to login and thereby prevents un-authorized access.
- h. Updates about important events to parents and students.

SURVEY OF TECHNOLOGY

- Khan Academy
- Udemy.
- Coursera.
- W3 schools.
- Open culture.

REQUIREMENT ANALYSIS

PROBLEM DEFINITION

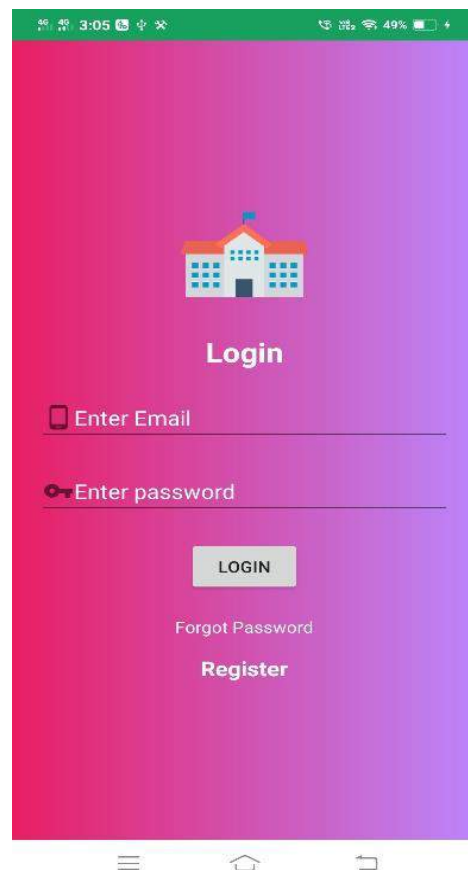
Now a days most of the colleges have their own website which displays the college information regarding notices and activities etc. There is a problem that if student don't have proper connectivity so she/he can get access to that particular information. The best solution for this is making the app which serves the students which is easily accessible. There are different operating systems for different mobile phones but the 83% of mobile users uses android based mobile phones.

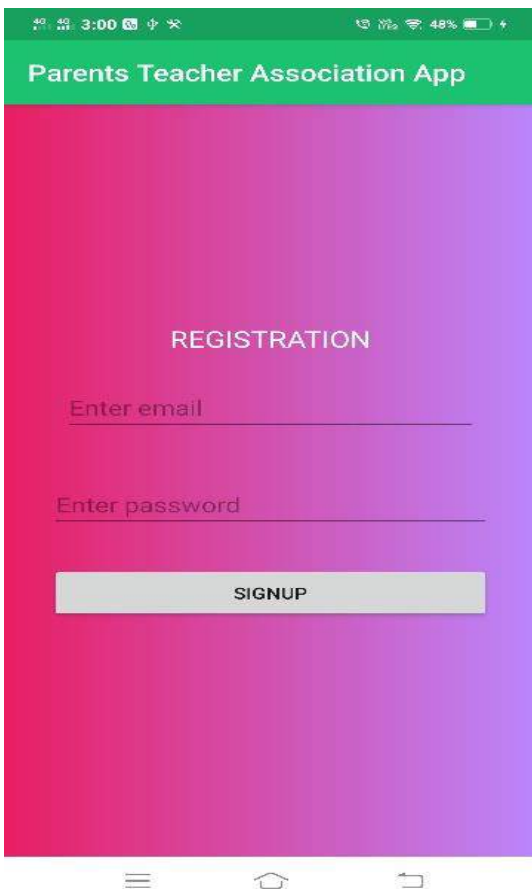
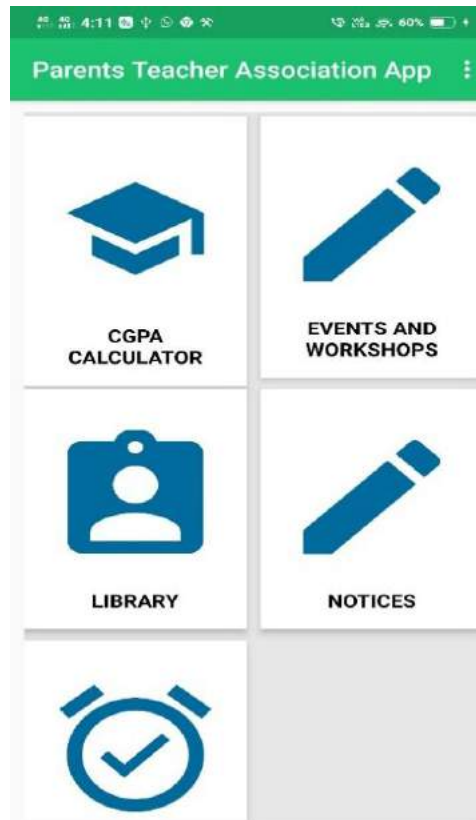
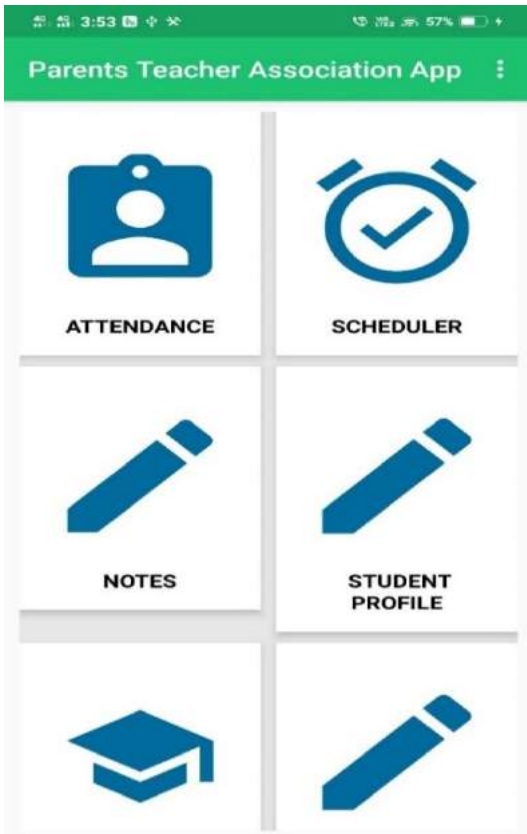
FUNCTIONAL REQUIREMENT

- a. Login.
- b. Registration.
- c. View attendance.
- d. View student's profile.
- e. View notes.
- f. Calculate CGPA.
- g. Check results.
- h. View Events and workshops.
- i. View Library books.
- j. Check Timetable.
- k. Logout.

NON- FUNCTIONAL REQUIREMENTS

- a. **Performance:** The performance of the application, is determine by its responsive time and time taken to complete the given task.
- b. **Scalability:** The app should be able to adopt itself to increased usage or able to handle more data as time progress.
- c. **Responsiveness:** The application should be able to be responsive to the user input or to any external interrupt which is of highest priority and return back to same state.
- d. **Reliability:** The application should be reliable to perform the business, i.e. when the user perform some important action it should be acknowledged with confirmation.
- e. **Security:** All the app data should be secured and be encrypted with minimum needs so that its protected from outside environment also from internal attack.
- f. **Availability:** There should be a common plane where the user can access the application.





CONCLUSION

This application in automating the existing manual system. This is a paperless work. It reduces manpower required. It will provide accurate information always. This app is user-friendly anyone can use it easily without making any efforts. This System is essential in college. All the Students, HOD, parents, faculty can get the required information without delay. We can add more information regarding the fees and video calls between parents and teacher.

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CELL PHONE USE WHILE DRIVING: DISESTEEM OF GLOBAL THREATS

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ABSTRACT

Cell phone adds up as a necessity of human being. Billions of people all over the world are using mobile phone in daily routine life. Day by day more features are getting added up in phones, make the people addictive to it. However, research experience, and studies mostly foreground the dangerous effect of cell phone during driving, strictly irresponsible, and an illegal matter.

There are millions of car accidents due mobile phone each year, and limited available resource to design the data Set of it. It became problematic to analyze the accident data of each states. In this research, we have plotted the accurate graph of car accidents because of cell phones while driving using Machine Learning approach. Linear Model, Linear Regression has been used to train the model and test data Set for accurate plotting.

Keywords: *Cell Phone, Machine Learning, Linear Regression Model, Graph, Car Accidents*

INTRODUCTION

Cell phones have enormous public advantages, improving communication in social and commercial interaction. Cell phones have empowered us to do various tasks simultaneously in less time. Nevertheless, their role in driver's life-initiated distraction which induces traffic jam and several minacious accidents,

which may cause someone's life. Cell phones use while driving has become the major cause in car collision over the past decades.

With the gradually escalating acceptance of car collision in India, the more of them are occurring due to driver's underestimation of globally accepted laws. Distracted driving causes car collisions, and result in thousands of car accidents leading thousands of deaths. This type of driving is the major reason for car accidents. The more car accidents occur because of teenagers, they do not follow the rules of driving. The individuals are theoretically agreeing with the laws but they are not following it practically. But they don't know how the huge problem it is. As the driver is not aware of his/her surroundings which leads to more car accidents, they put their and other's life at risk. Fatality rates per miles traveled has also increases: 2017 about 52% of accident caused by mobile use while driving. 2017 rates are 12.3% higher than 2013, which is an unfortunate statistic. Machine Learning is a sub-field of Artificial Intelligences. The data set which we used is called "Training Data", which is divided in Test set and Train set on which we build linear model to predict the outcome. Noted that, the desired outcome will change if the data set change.

Linear Regression is the Machine Learning Algorithm based on supervised learning. Regression Model is a statistical method that attempts to determine a target prediction value based on independent variables. It is mostly used to find out the relationship between variables and forecasting.

In this paper, Linear Regression Model has been implemented to plot the accurate graph. The states are represented by integer value i.e., is 1,2,3..... The Test set result will be more accurate than Train set result.

REVIEW OF LITERATURE

As we are seeing, there are many types of driver's distraction i.e., Manual, visual and cognitive. But the use of mobile phones while driving has become a serious and growing threat to road safety. There is one research paper based on this increasing problem, "Use of Cell Phones While Driving: What Customers Think". In this research paper they have took the viewpoints from both student and faculty members. From this survey, it is clear that the use of mobile phones while driving is more from individuals belonging to age 18 to 25. The actual purpose behind this research paper was to scrutinize about driving skills and impact of cell phones use while driving. There were many factors included such as contravention, mistakes and risks which may cause more dangerous to the person and his life.

The results came out from this research paper specifies that the usage of cell phones has a bad impact on individuals as well as others on the road. In most of the cases, they observed that the person driving the car or driving the vehicle often underestimate the rules and does the mistakes on the road, drivers forget about the car parking due to busy in cell phones. The suggestion they have given in their research paper is we should arrange the campaigns across the nation to reduce the use of cell phone while driving.

OBJECTIVES OF STUDY

In this research paper, we get hold of individual's review that what they think about using cellphone while driving with the help of online survey (by requesting few questions to the individuals who are eligible for driving). We also get to know how important it is to follow the rules while driving or else it aims to get us into an accident. The driver's do not know how foremost it is to follow the rules but they neglect it.

The prime factor of this research paper we are composing on is to let the humankind know how intent it is to drive safe and carefully. The driver's attention and their whole focus should be on road only. So, they can save their and other's life; it will also help to diminishes the figure of accidents eventuate in India.

RESEARCH METHODOLOGY, TOOLS AND TECHNIQUES

Linear Regression algorithm has been implemented on data using Python.

Step 1: Importing the Data

The data has been imported from 'New Accident Data Set.csv'.

```
14 #importing the dataset
15 dataset = pd.read_csv('New Accident Data Set.csv')
```

Step 2: Split the Data

Split the data in to train set and test set, by using Scikit-Learn's build-in train_test_split() method.

```
19 #splitting the dataset in to the training set and test set
20 from sklearn.model_selection import train_test_split
```

```
x_train,x_test, y_train, y_test = train_test_split(x,y,test_size=1/3, random_state=1)
```

The above script splits 70% of the data to training set while 30% of data to test set.

Step 3: Predict the Data

Predictor are those on which processing will be done. In this program, it will predict the y-axis value (represent the No. of Accidents). It will give the highest count of the accidents in particular state.

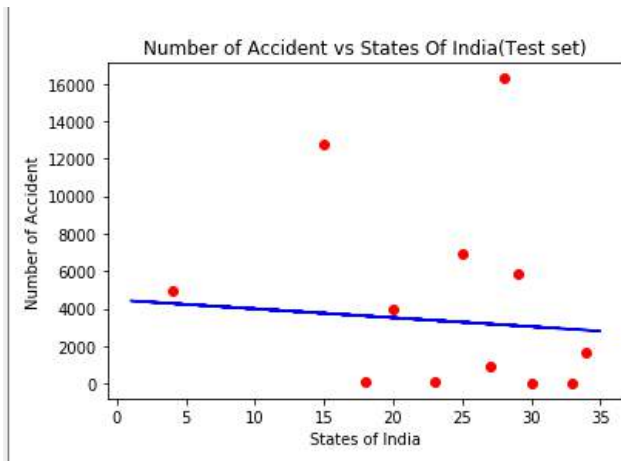
```
23
24 #featuring scaling
25 from sklearn.linear_model import LinearRegression
26 regressor=LinearRegression()
27 regressor.fit(x_train, y_train)
28 y_pred = regressor.predict([[8]])
29 y_pred
30
```

Step 4: Visualizing the test set data

The test (or validation) set is to validate the model build.

```
37 #visualizing the test set results
38 plt.scatter(x_test, y_test, color='red')
39 plt.plot(x_train,regressor.predict(x_train),color='blue')
40 plt.title('Number of Accident vs experience(Test set)')
41 plt.xlabel('years of experience')
42 plt.ylabel('salary')
43 plt.show()
44
```

Result of test set



Step 5: Visualizing the train set data.

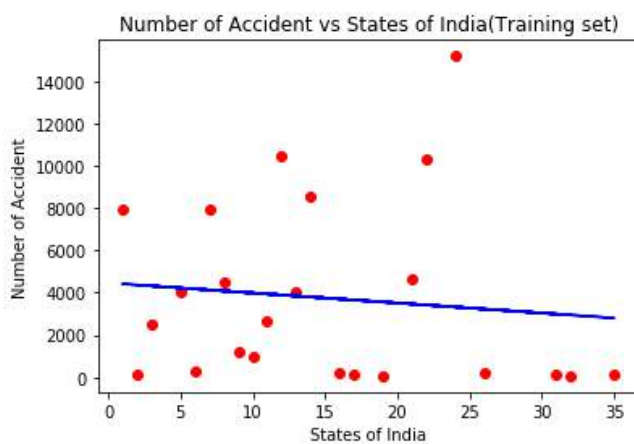
A training set is implemented to build-up a model.

```

28
29 #Visualizing the train set results
30 plt.scatter(x_train, y_train, color='red')
31 plt.plot(x_train,regressor.predict(x_train),color='blue')
32 plt.title('Number of Accident vs States of India(Training set)')
33 plt.xlabel('States of India')
34 plt.ylabel('Number of Accident')
35 plt.show()

```

Result of train set data

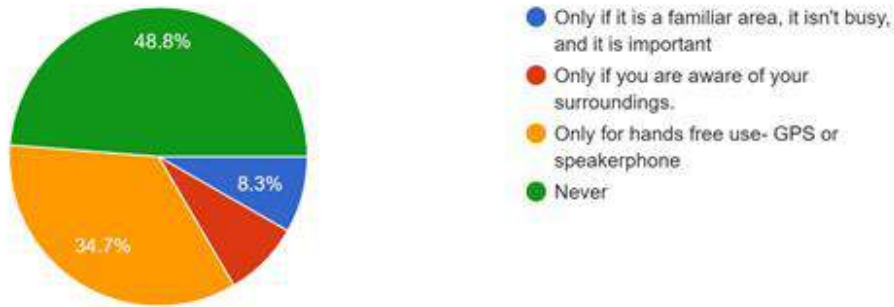


OBSERVATIONS AND FINDINGS FROM STUDY

The observation is based on primary data which is collected from few individuals through survey (google form). There were some questions asked to individuals which they responded.

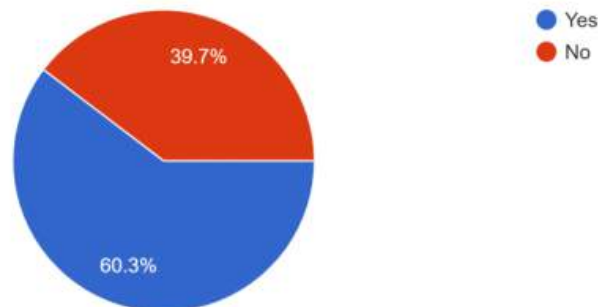
In what cases , using a phone while driving is okay?

121 responses



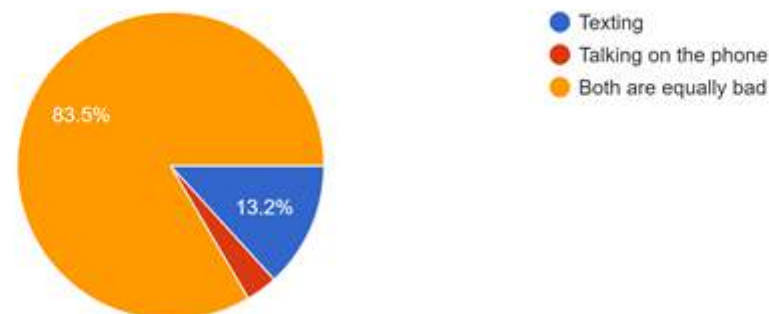
While you were driving if you get a call will you put it in your car Bluetooth device?

121 responses



Which is worse while driving?

121 responses



These are the observations we find out from the survey and through the research paper study.

Talking on the cell phone or texting while driving a car, the facts and figures shows that the multi-handling behind the steering wheel give rise to life frightening events. Drivers frequently are engrossed in secondary activities which cause the distraction.

There are three types of distraction which diminish the drivers follow as:

- ◆ Visual Distraction: These is the type of distraction which takes off focus and attention of driver even for mere second.
- ◆ Manual Distraction: This distraction causes the driver to take off their one hand or both of the hands from steering wheel.
- ◆ Cognitive Distraction: It causes driver to divert their mind mentally or attention from the road.

CONCLUSION

From this research, we conclude that we should obligate the campaign for the individuals who are eligible and who are not. The campaign must be essential for all the humankind to know the rules and regulations of driving. And also, the impact if they did not follow the jurisdiction by law, they will get charge for it and may cause someone's reason for death.

Owing to the fact that technology will change so fast, new distractions will get discovered. So parents need to make sure teens grasp the value of occupied driving, where the driver is unendingly attentive and focused on the road and surrounding. Make a commitment not to use distracting devices and method (which will distract) while driving.

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Track 2
Commerce & Management

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Social Media: A Boon for Marketing

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ABSTRACT

Today social media has become an integral part of our lives, as a medium of entertainment or making money through it. People are virtually more active than being active socially. There are many people who have found out innovative ways to earn through social media. One such example is marketing through social media platforms. In order to promote business, people opt for social media marketing. Social Media Marketing (SMM) implies using social media networks to promote your business or brand. This research paper will help to understand the scope of social media marketing. It explains the benefit of social media marketing and it emerging as a new market. Many applications such as Facebook, Instagram, Twitter, WhatsApp, Telegram, Pinterest, YouTube etc. are available on the social media platforms which play an important role in social media marketing. Marketing through these applications will increase the reach of a businessman. This research will help in determining probably the best platform for social media marketing. From this research the impact of social media marketing on the people is justified.

Keywords: *Social media, marketing, promotion, applications.*

INTRODUCTION

Today's age can be rightly called "e-age" as mostly everything can be done through electronic means or with the help of social media. In today's world social media has become the most convenient, easiest, and common mode of communication. It not only allows transfer of messages but also other forms of media like photos, videos, and audios. It is easily accessible to anyone having internet access. Nowadays business enterprises have started to use social media for marketing their products and services. The marketing done through social media is known as 'social media marketing'. It is the process of gaining attention through social media sites or platforms. More and more firms and businesses are now adopting e-mode of marketing. It has changed the way business is carried out today.

REVIEW OF LITERATURE

According to the American Marketing Association (n.d.), marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large. The classic view is that

organizations accomplish these goals through a marketing mix that includes the so-called Four Ps: Product, Price, Promotion, and Place (or distribution). (Tracy L. Tuten, Ph.D., Sage publishing)

SMM is the way of promoting a website, brand, or business by interacting with or attracting the interest of current or prospective customers through the channels of social media. Facebook, Twitter, and YouTube are the most popular social media that are widely used by the companies and the celebrities in promoting themselves and their brands. With the number of users rising each day in Facebook and other social networking sites, it is bound to bring in more customers for the business and much more promotions and marketing thus making social media, the better platform for marketing. (Dr M. Saravanakumar, Dr T. Sugantha Lakshmi, Life Science Journal 2012)

Web 2.0 is a collection of open-source, interactive and user-controlled online applications expanding the experiences, knowledge, and market power of the users as participants in business and social processes. Web 2.0 applications support the creation of informal users' networks facilitating the flow of ideas and knowledge by allowing the efficient generation, dissemination, sharing and editing/ refining of informational content. (Alan Charlesworth)

SCOPE OF THE STUDY

The study is based on social media marketing and the changing attitude of people towards social media marketing. The survey was taken electronically in order to get a proper idea of their opinion.

OBJECTIVES

1. To know about the most used social media application.
2. To know about the best platform for social media marketing.
3. To find out whether social media marketing has a wider scope than traditional marketing.
4. To understand the attitude of the people towards social media marketing.

RESEARCH METHODOLOGY

In this study, the data is obtained from both primary and secondary sources. The primary data is collected using questionnaire method. We used this method to explore the opinions of people on Social Media Marketing, whereas; the secondary data is collected from the newspapers, magazines, websites, and books in order to get relevant information etc. Convenience sampling method was used. The sample size of the survey was 100. The data is analysed and interpreted using Microsoft Excel 2007.

DATA ANALYSIS AND DISCUSSION

In order to understand the opinions of people on social media marketing we asked a few questions.

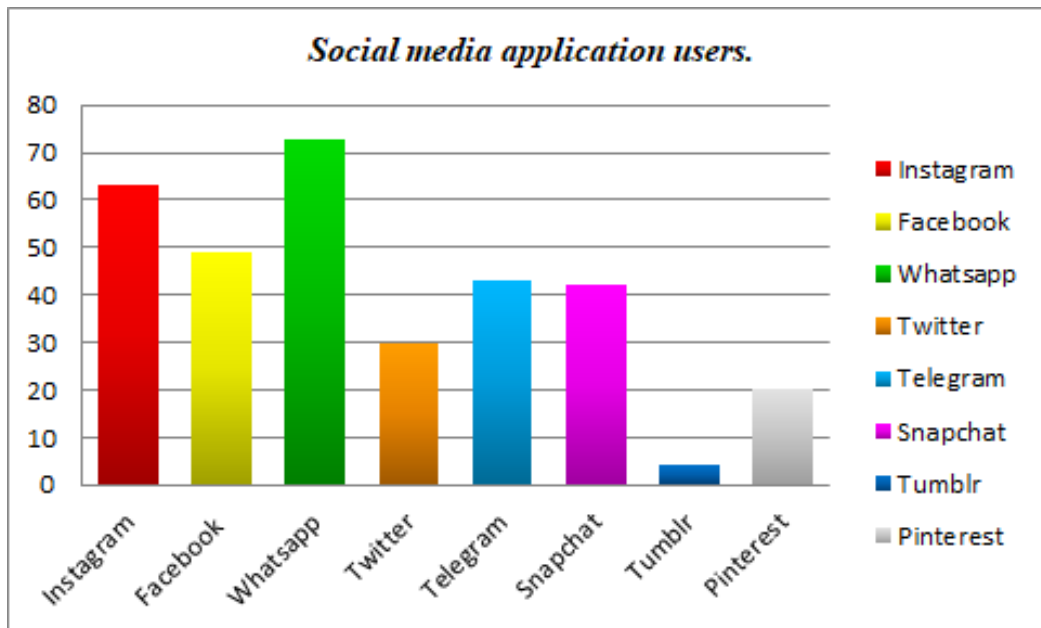


Chart 1: Responses on Social media application users
(Source: Primary data)

Majority of the people use WhatsApp followed by Instagram and Facebook.

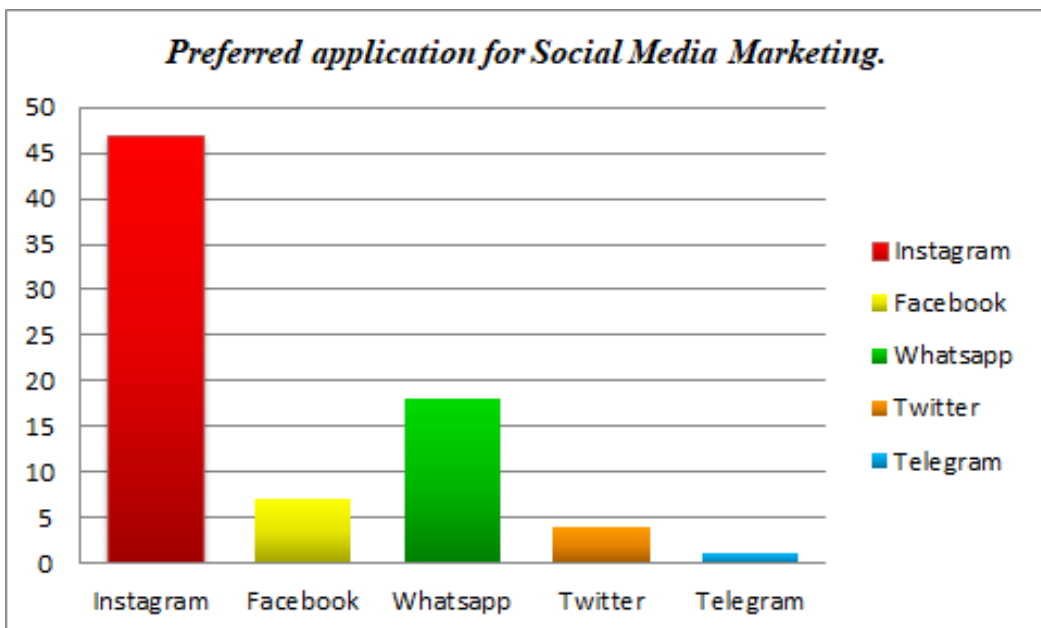


Chart 2: Responses on preferred social media application for marketing
(Source: Primary data)

Majority of the people were of the opinion, that Instagram is a better platform for social media marketing followed by WhatsApp.

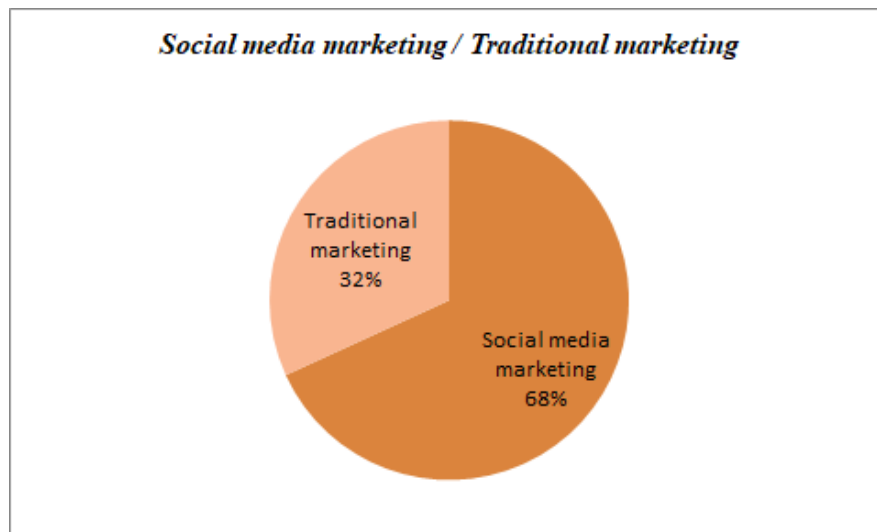


Chart 3: Responses on preferred marketing method
(Source: Primary data)

Large number of people prefer social media marketing than traditional marketing.

FINDINGS

- It was found that a large number of people use WhatsApp followed by Instagram and Facebook. Thus, marketing through these three applications will reach to many people.
- It was found that Instagram is the most preferred social media platform in order to promote business.
- Majority of the people prefer social media marketing which implies that social media marketing has a wider scope than traditional marketing.

CONCLUSION

The introduction of social media in business has to a great extent changed the way in which business enterprises market their product. Major section of the society prefers social media marketing over traditional marketing. They consider it as a convenient platform for marketing. As every coin has two sides same is the case here, even if social media marketing comes with an opportunity of having a huge consumer base, publicity of the product and many more positive impact, social media marketing has its own set of challenges like safeguarding and protecting the consumer's interest, their privacy. For this purpose, proper strategy has to be chalked out for marketing through social media and also regular interaction with the consumers can help in effective social media marketing.

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Study on Factors Impacting Medclaim Policy Post Covid-19

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ABSTRACT

Health insurance policy is an agreement between an insurance company and a policyholder to provide financial protection for the medical expenses incurred by the latter. It ensures to provide the benefits of reimbursement of the medical expenses incurred or cashless method. The public and private companies have various schemes introduced to general public. The novel coronavirus outbreak resulted in huge death of human it's in the form of common flu and other symptoms further caused organ failure, severe respiratory issues and loss of senses. The pandemic treatment involves huge medical cost which is not affordable by common people. Here Medclaim companies play a vital role by adding a feature of all expenses incurred in treatment of covid-19; it covers pre and post hospitalization charges and all hospitalization charges.

Keywords: COVID-19 (Coronavirus 19), Pandemic, Medclaim, Health insurance.

INTRODUCTION

Over the past few decades, the health insurance sector has shown a steady growth in India. The awareness of Medclaim policies among general people has increased during pandemic as compared to post pandemic period. There are tough competitions between the Medclaim (health) insurance company especially during this pandemic and there is been a huge hype in Medclaim policies during the pandemic. A sample of 100 respondents from different cities are taken, consider under research. Researcher used 26 item scales to identify factors affecting the decision-making power of an individual for taking Medclaim policies during covid-19 pandemic.

REVIEW OF LITERATURE

Eun Ji Kim, Lyndonna marrast, and Joseph Conigliaro, (2020) "COVID-19 Magnifying the Effects of Health Disparities", the researcher has emphasis on many disparities that has effected the health of poor class people. Betty Pfefferbaum, M.D., M. J. and Carol S. North, M.D., M.P.E., (2020), "Mental Health and the COVID-19 Pandemic", the research has identified many factors that lead to cause of mental health which played a vital role during pandemic. Carmen Moreno, Ph.D. Prof Til Wykes, Ph.D. Prof Silvana Galderisi, MD. Prof Merete Nodentoft, Dr MedSc, (2020), "How mental health care should change as a consequence of the

COVID-19 pandemic”, the study has shown increased symptoms of depression, anxiety and stress level related to COVID-19. Emanuele Maria Giusti, Elisa Pedroli, and Enrico Molinari, (2020), “The Psychological Impact of the COVID-19 Outbreak on Health Professionals: A Cross- Sectional Study”, the study has shown majorly 11 factors contributing more in psychological impact on an working professionals. Bency Johnson, Dr. N. Manickkavasakam, “A Study on The Benefits Of Advertisement On The Promotion Of Health Insurance Products With Special Reference to Kerala State”, the study tell that advertisement through different means aware people about Mediclaim and also to increase the sales and profit of the company. Jessica Banthin, Michael, Mathew Buettgens, Linda J. Blumberg. Robin Wang, “Changes in Health Insurance Coverage Due TO the COVID-19 Recession: Preliminary Estimates Using Microsimulation”, the study may focus on the jobless people during pandemic, as employment losses the job there is potential profound effect on the health insurance coverage of their family. Julio Torales, Marcelo O'Higgins, Joao Mauricio Castaldelli-Maia, “The outbreaks of COVID-19 coronavirus and its impact on global mental health”, the study shows that due to pandemic, patients were isolated for treatment which has high cause of stress and other neurological symptom disorders were reported. Biji B S, Dr. Suleena V S, “Imperatives of Health Insurance: A Study in the context of COVID-19 Pandemic”, the study shows that due to novel coronavirus health care is expensive and unaffordable which lead to explore many different health care financing options to overcome the cost. Mersha, Abel Worku and Deresse, “The Effect of COVID-19 on Insurance Industry in Ethiopia”, the study shows that during pandemic the insurance industries were under high risk and were having negative impact on their business, the insurance industry has not escaped from pandemic effect but COVID-19casued a spill over effect on insurance industry. James K. Gibb, L. Zachary DuBois, Sarah Williams, Luseadra McKerracher, Robert-Paul Juster, Jessica Fields, “Sexual and gender minority health vulnerability during the COVID-19 health crisis”, the researcher concludes that the vulnerabilities of SGM people includes Bisexual, Lesbian, Gay, Transgender, (LGBT2SQIA+) people and challenges faced by them during COVID-19.

OBJECTIVES

1. To study the level of awareness and perception of Mediclaim polices during covid-19 amongst general public.
2. To identify factors impacting Mediclaim policy post COVID-19.

RESEARCH DESIGN

The primary data were collected through well-structured questioner. Focused scale on factors impacting Mediclaim policies during COVID-19. The data were collected from a sample of 100 responded. Mediclaim Advisor was interviewed for primary data collection.

Reliability

Table 1: Reliability Statistics

Cronbach's Alpha	N of Items
0.826	26

Table1 indicates that Cronbach's Alpha value of all the collected responses is greater than 0.60, which indicates consistency in the response collected through structured questionnaire are reliable in nature and it can be further analyse.

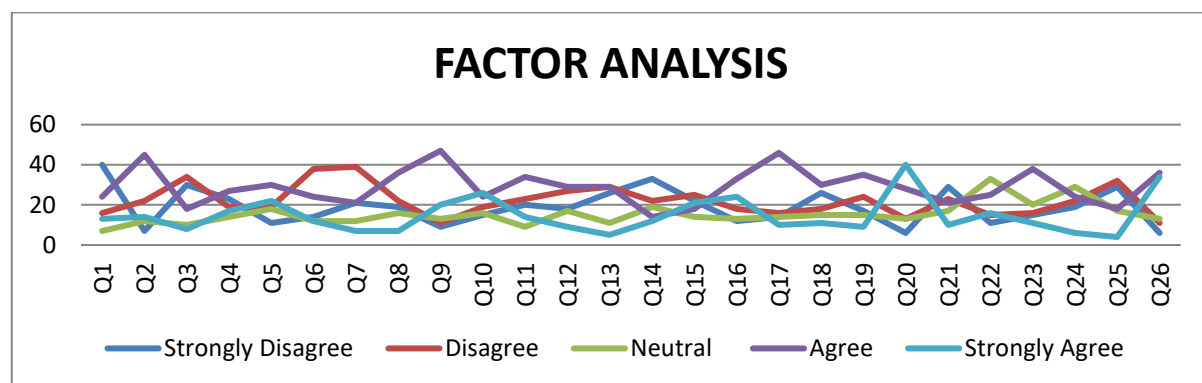


Figure 1. Factor analysis of 25 statements asked to 100 respondents from Mumbai.

Fig. 1 shows a detail picture of analysis; it indicates considerations of various factors are done by the respondents while taking Mediclaim policies during covid-19. The respondents who are disagree with the statement are one who have Mediclaim policies pre covid-19 whereas the respondents who have agree with the statement are the one have taken the policies during covid-19 pandemic.

Table 2: Factor Analysis

Factors	Rank	
Influencing factor	Financial Profession	Q9
	Health records	Q17
	Age	Q2
	Right time	Q20
	Claim settlement ratio	Q23
	Level of income	Q8
	Goodwill	Q26
	Low premium	Q19
	Investment	Q11

	Hospitalization charges	Q16
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Table 2 indicates the statistical analysis done through EXCEL. Initially 26 statements were asked to the respondent to know the factors impacting the decision on Medclaim policy during pandemic, after factor analyses 10 factors are identified.

The above table shows the factors and the percentage of factors the respondent consider.

The study shows that only 37% of the people have adequate knowledge about Medclaim policies pre covid-19 pandemic whereas 56% of the people have little or no knowledge about Medclaim pre or post covid-19 and the remaining 7% of the people in between this two (at neutral stage).

According to the study only 68% of the respondents agree that right time to take Medclaim is when the individual is healthy whereas 19% of the respondents disagree with this statement and 13% of respondents are at neutral state.

Secondary Data:

Journal (Articles)

Websites

SCOPE OF THE STUDY

To study the hype and the major factors affecting of Medclaim policies during COVID-19. The study is done for the period of pandemic. The study covers Mumbai location. The study is conducted on 100 samples.

IMPORTANCE OF THE STUDY

This research would help for further studies as a reference. Awareness of Medclaim policies in general public.

LIMITATIONS

The study is limited to the city of Mumbai. Time constraints were one of the major problems. Respondent's suggestions may or may not be correct. Limited source of information. The research specifically targets. The research was focused on business, services, and employee

Expected Contribution

A level awareness amongst general public regarding Medclaim policy during pandemic. Number of factors contributing to decision making while taking Medclaim policy.

Suggestions

1. Company should tell all the details about the policy and what all of expenses are included and what are not include.
2. The company should include COVID-19 kit and all other expenses that doctors charge, and which are not included in the Medclaim.

3. Medclaim companies and IRDA should think upon reducing the premium so it can be affordable for common people/poor people/ low-income people.

CONCLUSION

The researcher has used 26 scales to identify factors impacting the individual decision but after analysis it is found that 10 factors are lead to impacting the decision of an individual during the pandemic. The factors like Profession, Financial Profession, Health records, Awareness, Right time, Residence(zone), Claim settlement ratio, Level of income, Goodwill and Low premium plays an important role in factors impacting decision of Medclaim policy during novel coronavirus.

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An Impact of Covid-19 on the Revenue of Retail Business in Mumbai City

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ABSTRACT

The study gives in the detail information on how the COVID-19 pandemic affected the revenue of the retail business, in Mumbai City. During the period of COVID-19 shops & business need to be shut down completely for 3 to 4 months. Only Medicals & Grocery shops were allowed to be exposed along with time constraints. Later, when government has given relief after 3 months shops were allowed to open with time limitations. Vendors need to start their business with investing some capital in business or reducing their cost. They even need to remove their labours from work. The study is help full for retailers which gives them a fair idea about the situation.

Keywords: *Covid-19, pandemic, strategies, investment, finance, retail business.*

INTRODUCTION

Retail businesses sell items or services to customers for their consumption, use or pleasure. They typically sell items & services in-store, but some items may be sold online or over the phone then shipped to the customers. Although the idea of retail is often associated with the purchase of goods, the term may be applied to service-providers that sell to consumers. Retail service providers include retail banking, tourism, insurance, private healthcare, private education, private security firms, legal firms, publishers, public transport and others.

The Covid-19 is a Novel Coronavirus caused by severe acute respiratory syndrome Coronavirus 2 (SARS-CoV-2), first identified in December 2019 in Wuhan, China. The World Health Organization declared the outbreak a Public Health Emergency of International Concern in January 2020 & a pandemic in March 2020. The Covid-19 pandemic affected Worldwide. Due to its outbreak Country's need to put Lockdown. Due to which different sectors of an economy affected a lot. In this, Retail Business is also a part of Covid-19 effect.

The study sees how Covid-19 impacted the revenue of the Retail Business. The new business strategies adopted by Retail Business after Unlock & also to make suggestions which will help the Retail Business to improve their Revenue.

SCOPE OF THE STUDY

The scope of study includes the retailers, labors, sales, several approaches adopted by the retailers & consumers during the lock down. The data for the study has been collected through primary as well as secondary sources. The primary data has been gathered in the form of responses given by them.

Importance of the Study

The study benefits those who are into retail business. As the study sees the retail business revenue and the impact of COVID-19 in Mumbai City. This helps them to follow different business approaches which help them to improve from their loss incurred in the business due to COVID-19 pandemic.

REVIEW OF LITERATURE

Convergence innovative in the digital age and in the Covid-19 pandemic crisis. Sang M, Lee, Silvana Trim. (Journal of Business Research) The study says Convergence Innovation (CI) will help to cope up with the current ongoing scenario. The concept of CI includes its autonomous ecosystems enabled by advanced technologies, unique life cycle features, relationship with other innovation approaches & its purpose to value creation for stakeholders & beyond for the (greater good).

Cutting-edge technologies for small business and innovation in the era of COVID-19 global health pandemic Justice Akpan, Didier Sopranino, Dong-Heon Kwak Journal of Small Business & Entrepreneurship, 1-11, 2020 This paper identifies the technologies, evaluates disruptive software platforms, and strategies needed for creating and managing small business innovation and highlighting the complexity of that process and the context within which this process takes place. The current realities show that technologies that enable social business creation, customer relationship management systems, new communications channels, virtual reality technologies for remote operations, and the Internet of Things (IoT) are crucial to lowering the costs of doing business.

The impact of COVID-19 on transport volume and freight capacity dynamics: An empirical analysis in German food retail logistics Dominic Locke Transportation Research Interdisciplinary Perspectives 6, 100165, 2020 Governmental restrictions aspiring to slow down the spread of epidemic and pandemic outbreaks lead to impairments for economic operations, which impact transportation networks comprising the maritime, rail, air, and trucking industries. Witnessing a substantial increase in the number of infections in Germany, the authorities have imposed drastic restrictions on everyday life. Resulting panic buying and increasing home consumption had versatile impacts on transport volume and freight capacity dynamics in German food retail logistics.

The use of digital technologies by small and medium enterprises during COVID-19: Implications for theory and practice. Thanos Papadopoulos, Konstantinos N Balta's, Maria Elizaveta Balta International Journal of Information Management 55, 102192, 2020 Scholars have highlighted the role of Digital Technologies (DT) in enhancing productivity and

performance in Small and Medium Enterprises (SMEs). However, there is limited evidence on the use of DT for dealing with the consequences of extreme events, such as COVID-19. (i) outlining potential research avenues and (ii) reflecting on the managerial implications of using DT within SMEs to deal with the repercussions of COVID-19 and securing business continuity.

How are small businesses adjusting to Covid-19? Early evidence. Alexander. W. Bartek, Marianne Bertrand (National Bureau of Economic Research Working Paper Series, 2020) The study reveals how the Covid-19 affected small business. The study also says that 40% of businesses have reduced their staff & it also says that more than 43% of small businesses are temporarily closed. These businesses are majorly planning to seek funds through CARES act.

OBJECTIVES

1. To study the impact of Covid-19 on Retail Business.
2. To study the impact of Covid-19 on Sales and labor management.
3. To find out the new business strategies adopted by Retail Business in Mumbai.

RESEARCH METHODOLOGY

The present study has exclusively focused on the loss incurred by retailers due to COVID-19 pandemic. The data used to conduct this research is primary data as well as secondary data. The method used for primary data collection is Survey method and the method used for secondary data is collected through Internet. The sample space for this research was 60 people. The time-period for the study is from October to March.

DATA ANALYSIS AND INTERPRETATION

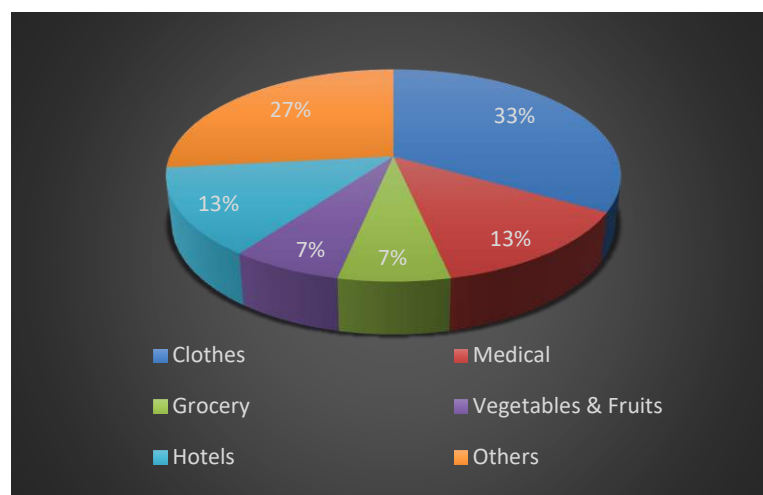


Chart 1: Types of shops

The pie diagram shows what is the percentage of the shops distributed accordingly. Clothes 33%, Medical 13%, Grocery 7%, Vegetables & Fruits 7%, Hotels 13% & Others 27%.



Chart 2: Challenges faced during lockdown

The pyramid shows the challenges faced by the retail business during lockdown. The major challenges faced by the retail business are Financial Issues, Transport & No Labour.



Chart 3: Business strategy followed relaxation of lockdown

The pyramid shows the Business Strategy adopted by various business after relaxation of lockdown. The major strategies adopted by them are Investing some finance in business to give it some push, Continuing Online platform as a mode of business, & they even followed COVID Rules accordingly.

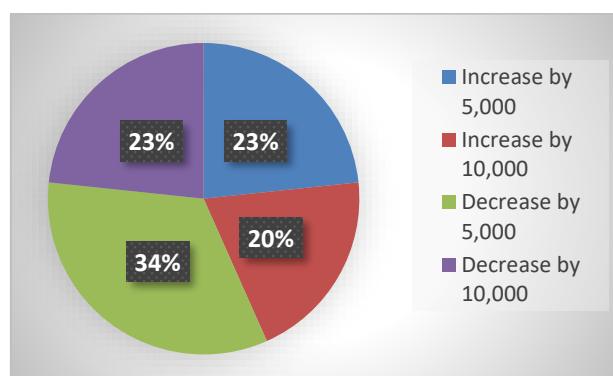


Chart 4: Sales increased or decreased after unlock

The above pie diagram shows the increase or decrease by in sales after unlock. The increase by 5,000 is 23%, 10,000 is 20%, decrease is 34% & 10,000 is 23%.

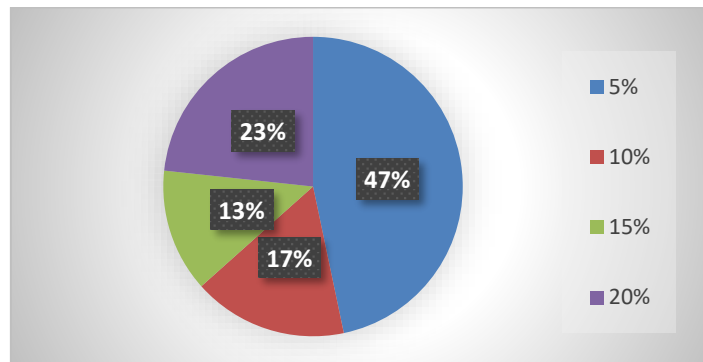


Chart 5: Loss percentage business during lockdown

The above pie diagram shows the loss percentage during the lockdown. The loss accrued during the lockdown 5% is 47%, 10% is 17%, 15% is 13% & 20% is 23%.

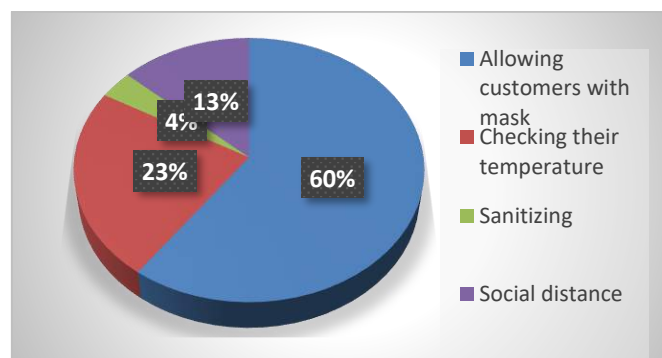


Chart 6: Precautions followed while allowing the customers.

The above pie diagram shows the precautions followed by the retail business while allowing customers. Allowing the customers with mask is 60%, Checking their temperature is 23%, Sanitizing is 4% & Following Social Distance is 13%.

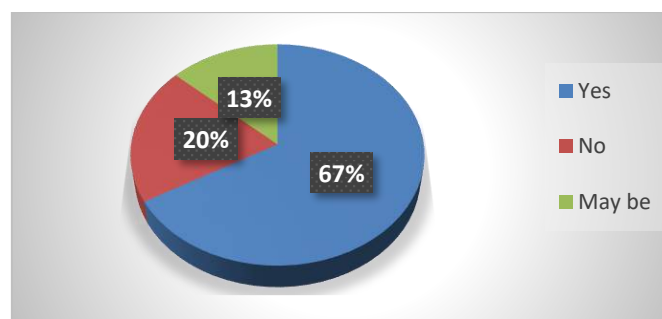


Chart 7: Increase in price of products.

The above diagram shows the retailers who increased the price of the products. The retailers who increased the price is 67%, retailers who have not increased the price of products is 20% & other 13% retailers are noy sure have increased it or not.

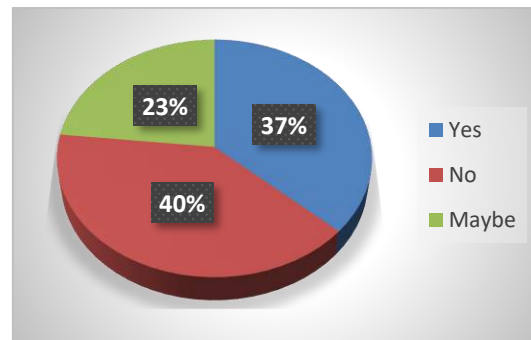


Chart 8: Delivery of goods on time

The above pie diagram shows the retailers who got delivery of goods on time. The retailers who got delivery of goods on time are 37%, who have not got on time are 40% & 23% are not sure of getting delivery of goods on time.

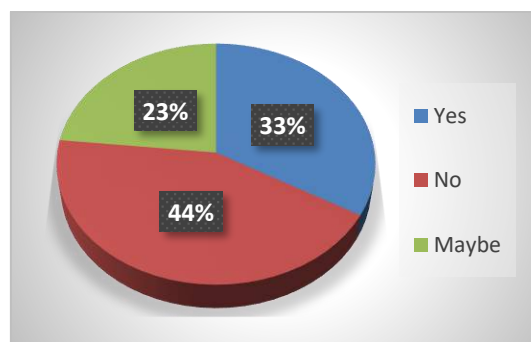


Chart 9: Discounts offered to customers

The above pie diagram shows the discounts offered by retailers to customers. The retailers who gave discounts are 33%, who have not given any discounts to customers are 44% & 23% are not sure about giving discounts.

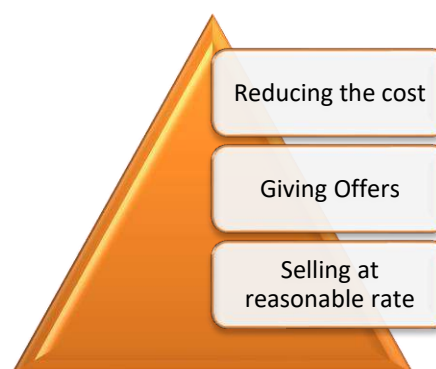


Chart 10: Attracted the customers

The above pyramid shows how the retailers attract their customers. The retailers have Reduced their Cost, they have even Given Offers to Customers, & they even started to sell at Reasonable Rate.

FINDINGS

- The study shows that the major challenges faced by the retailers is Financial Issues.
- The study has also seen whether the retailers have followed any strategies after relaxation of lockdown is by investing some capital into business, cutting their cost, reducing the manpower.
- Majority of retailers had loss percentage of 5%.
- The sales of the retail business also went down to 5,000 monthlies.
- Many retailers started following COVID-19 rules while allowing their customers as well as labor while entering the shop.
- Majority of retailers have increased their price of products up to 2%.
- They even had to face the transportation problem while purchasing raw materials from wholesaler.
- There has been delay in delivery of goods on time.
- Some of the retailers have offered some discounts to the customers to attract them.
- They attracted them by Reducing the Cost of products, Giving Offers & Selling at Reasonable rate.

Suggestions

- Retailers should change their business strategies according with changing environment.
- They also need to turn towards Online Business.
- As the pandemic is going on, they need to offer some discounts to customers to increase their sales

Limitations of the study

- The major limitation to the study was time.
- Limited information available.
- Many retailers are not ready to give the response.
- The same study can be studied in different regions on same topic

CONCLUSION

The COVID-19 pandemic is seen to be a long ongoing process so retailers should see to that they follow the COVID-19 Rules properly. Allow customers with proper sanitization & allow customers by wearing mask. Retailers need to adopt to changing environment by traditional method of selling goods to modern method by doing online trading.

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Understanding Adoption Factors of O-T-T Video Services among Generation Y & Generation Z Consumers in Mumbai

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ABSTRACT

Social media and quality have remodelled communication forever, resetting client expectations and shaking up the business models of wireless carriers and alternative system players. A similar development is being seen among the media and show business, because the likes of Uber and Airbnb remodelled the conception of on-demand access to services during this hyperconnected digital era, shoppers wish access to customized content anytime, anywhere. Spearheading this radical change are the Internet-driven, immoderate (OTT) video platforms that deliver movie and television content, bypassing the standard distribution streams of cable and satellite TV. The research fetched out four keys enabling the feat of this platform: Convenience, mobility, content and subscription strategies. These calculated constraints will help to increase engagement levels of the consumers for the OTT platforms.

***Keywords:** Over-The-Top Platforms, Netflix, Subscription plan, Generation Z, Binge, video, internet.*

INTRODUCTION

Over-The-Top (OTT) content is the upcoming big buzzword in today's technology and systems enabled environment. Being one of the major economies in the world, Indian television industry is going to garner definite returns of more than billions. With the full force efforts to increase the nationwide internet penetration, India has witnessed more than 500 million Internet users due to affordable prices. In this digital era, (OTT) content has emerged among millennial as the new standalone.

Currently, India has more than 15 OTT platforms with the major ones being Hot Star by Star Network, VOOT by Viacom18, Sony Liv by Sony, Netflix, Eros Now, and Hungama. There are various other independent content creators like TVF who are now coming up with their individual OTT platforms like TVF Play in directive to compete with the leading platforms by providing freshly brewed content better than the rest. Consequently, it is becoming evident that OTT contents and the platforms associated with it are becoming major sources of communication and revenue streams for corporate organizations. With large OTT services going extremely heavy on marketing for acquiring and grabbing customer's eyeballs, the

Video-On-Demand (VOD) market is on the brink of a massive take-off. This research paper in a fresh approach tries to comprehend the adoptability factors of OTT among consumers.

OBJECTIVES

1. To study the level of awareness of OTT services among the Generation Y & Z.
2. To find their preferences among OTT services and traditional TV.
3. To understand their payment behaviour towards subscription of OTT services.

METHODOLOGY

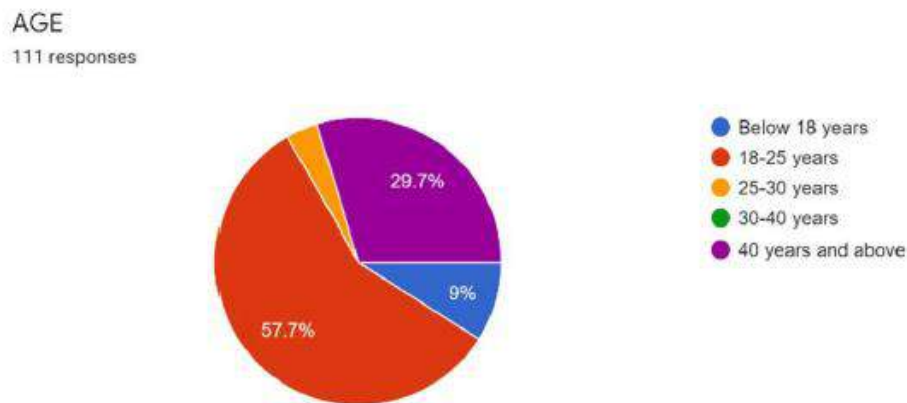
The methodology adopted in this research is qualitative in nature. The sampling method that was used in this case was referential and snowball sampling process. The participant for this research were those participants consisting of young, dynamic, under-graduate individuals, who belong to the generation that is defined as generation Z.

HYPOTHESIS

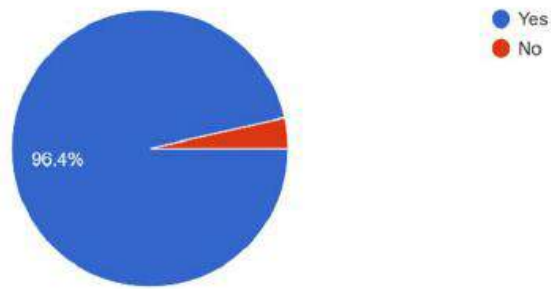
H₀₁: Generation Z prefers O-T-T services over traditional TV

H₁₁: Generation Z does not prefer O-T-T services over traditional TV.

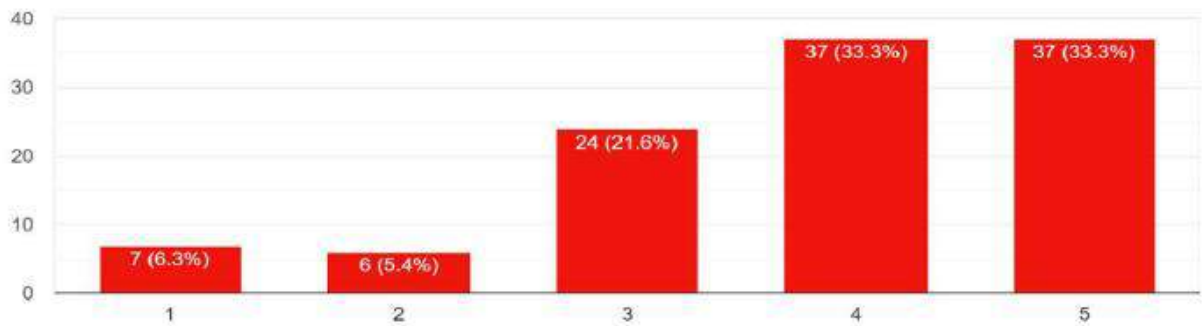
3. FINDINGS



1. Do you know about any OTT services that exists in the country?
111 responses

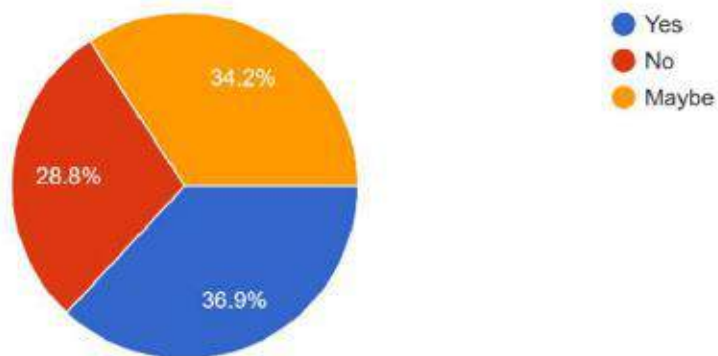


5. How likely are you to prefer OTT over traditional TV ?
111 responses



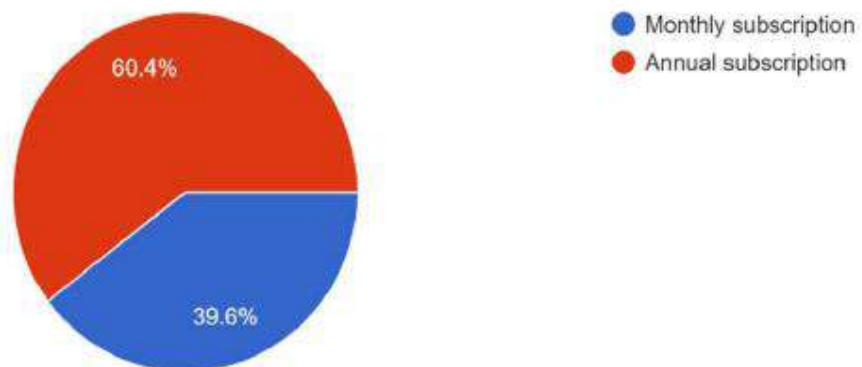
(1 being the lowest and 5 being the highest)

8. Would you accept ads to pay less for a subscription plan?
111 responses



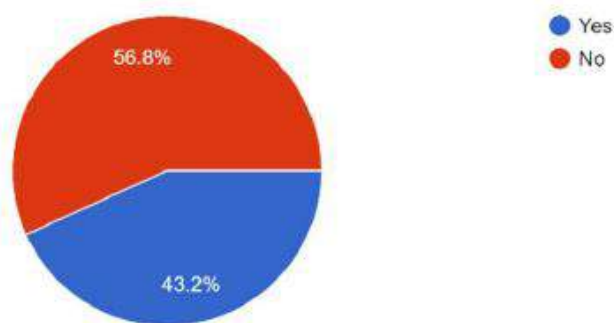
9. Would you buy monthly subscription Plans or Annual Subscription Plans?

111 responses



10. Do you mind sharing your usage data in exchange for discounted subscription Plans?

111 responses



INTERPRETATION

1. 96.4% of my sample agreed to be aware of the availability of O-T-T services and platforms in India.
2. Out of 111 responses, 66.66% are likely to prefer O-T-T services over traditional TV.
3. According to the received responses, 36.9% would accept ads and pay less for a subscription plan.
4. From my sample space of 111 responses, 60.4% would prefer annual plans over monthly subscriptions.
5. 56.8 % out of 111 responses were not comfortable in sharing their usage data for discounted prices.

ANALYSIS

It is a fascinating insight that these 111 respondents claim to have knowledge of these OTT platforms through either conventional media advertising or through referrals and word of mouth suggestions through friends.

OTT platforms provide ease in watching variety of shows within a few clicks. However, some of the respondents were also of the opinion that subscription plans of these platforms need to be made economical and feasible for consumers.

OTT platforms provide 4 distinguishing characteristics that today's generation Y & Z prefer and those are:

- Convenience
- Content
- Cost
- Accessibility

CONCLUSION

This research is a fresh approach to discuss how consumers will adopt to a certain new media known as the OTT platform and also understand its aftermaths in terms of what is the future of OTT services in terms of media consumption. Furthermore, if customers accept to the OTT services, what will its costs be in terms of television viewing. The major reason of associating television with OTT platform is that both are audio-visual in nature, the convention of both media is similar and both media provide similar satisfaction. In comparison of OTT versus television, all 111 respondents said that their television consumption patterns have been condensed to being negligible after OTT platforms stormed the media market. 66.66% of 111 responses claimed that OTT platforms were much better than traditional video consumption media vehicles like television. In the age of internet and mobile penetration, the future of OTT looks bright. Even though society has started participating a lot in OTT platforms, it is definitive that it will ever replace television as a primary video consumption platform.

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To study the on-Talent acquisition in IT during Covid 19 in Mumbai

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ABSTRACT

Each company all around the globe deserves what's best talent to work for them and goes on a talent hunt spree by conducting or creating various methodologies of identifying the appropriate suitable candidate for the suitable job opening. Different methods are used in this, such as group discussions, aptitude tests, and so on. In this case, human resource management plays a key role in discovering a gold from gold mine. Among all of this, HR roles Talent Acquisition are crucial and play a big part in the organization's proper functioning. Things are changing due to an increase in the pandemic COVID-19 outbreak. The methods used by the HR division of the organization to discharge their responsibilities are not always the same. Various obstacles have been raised in the way of organizations, which has resulting in a mess. A major hindrance to achieve their goals. This paper intends to observe and understand the causes of these obstacles in the life of the Human Resource Department, and strategies that could decrease the pandemic's effectiveness while performing work duties.

Keywords: *Talent Acquisition, COVID-19, Pandemic Challenges Recruitment and Selection, Hiring process.*

INTRODUCTION

Since, every industry in every sector requires talented people to work in their organization. The role of management involves getting things done from others with minimal consumption of resources. Since, humans are one of the most significant and agile assets to the organization, it is the duty of the Human Resource management to play a key role not only in the recruitment and selection process but to identify the talent out of the people who can multitask. Employees or workers with the multitasking ability helps the organization in certain ways since minimal no. of labour is required to do various tasks to achieve the organizational goals. Since, due to outbreak of pandemic COVID-19, it has become a major challenge for the organization.

OBJECTIVES

1. To know the impact on talent acquisition in IT industry during covid 19.
2. To understand various methods of recruitment strategies, use during COVID-19.
3. To understand post Covid recruiting and hiring plan.

REVIEW OF LITERATURE

Dr Abdul Quaddus Mohammed in the year 2019 concluded and stated that. “Talent management process makes sure that the organization has sufficient supply of talented employees to meet the organizational goals. Aastha Tyagi in the year 2012 in the rapidly changing global world economy, it is important to keep pace with the competition and succeed. Gavin Walford-Wright and Professor William Scott- in the year 2018 Concluded and stated that Talent Rising; People Analytics & Technology driving Talent Acquisition Strategy’ is a study of the opportunities. Shelly Gorman in the year 2011 Concluded and stated that We are living through an exciting era in technology development—the emergence of interactive, social media and virtual technologies. Makoto Nakayama Norma G. Sutcliffe in the year 2006 concluded and stated that IT managers can plan and procure their organization’s IT skills more effectively. Open-ended interviews Rajiv Srivastava, Girish Keshav Pal shikar, Sachin Pawar in the year April 2015 concluded and stated that. Talent Acquisition (TA) is an important function within HR, Richard D. Johnson, Dianna L. Stone and Kimberly M. Laszewski in the year 2020 concluded and stated that the hospitality and tourism and IT industry face several workforce challenges. Jose in the year 2019 concluded and stated that talent acquisition and recruitment are the undergoing processes that also essential for the organization, C. Gokula Krishnan, S. Krishnappa in the year 2020 concluded and stated that Talent acquisition refers to the talent acquisition department or team within the Human Resources department. The talent acquisition team within a company is responsible for finding, acquiring, assessing, Rudders Mishra, Ricardo Rodriguez, Valentin PORTILLO in the year 2020 stated and concluded that in a recruitment industry, selecting a best CV from a particular job post within a pile of thousand CV’s is quite challenging.

HYPOTHESIS

H₀: There is no association between covid 19 and hiring.
H₁: There is an association between covid 19 and hiring.

RESEARCH METHODOLOGY

Sources of Data: The data for the study has collected from both primary data and secondary data.

Primary Data: Primary data conduct through survey. In this study, primary data has collected through structured Questionnaire.

Secondary Data: Secondary data is collected by someone other than the primary user. Secondary data has collected from various, articles

1. DATA ANALYSIS

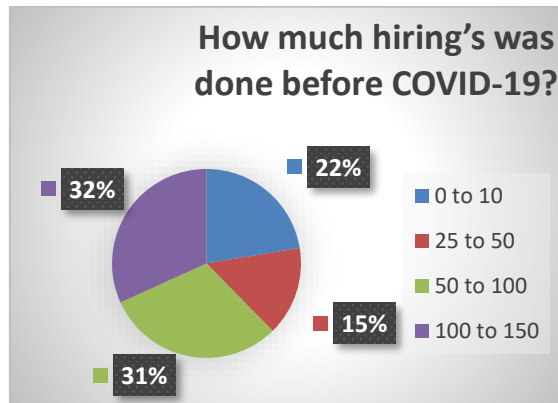


Chart 1

Chart 1 depicts how much hiring was completed prior to Covid 19. According to the 100% chart, the highest percentage is 32%, which falls between 100 and 150. The second highest is 31 percent, which falls between 50 and 100 percent. The third and fourth range from 15% to 22%, with values ranging from 0 to 10 and 25 to 50.

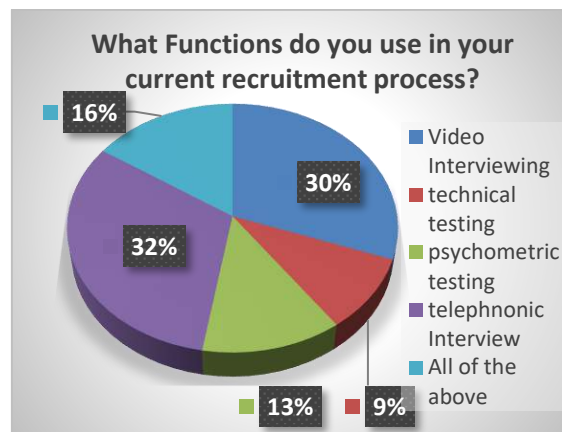


Chart 2

Chart 2 shows an analysis of the current recruitment process centred on the 85 respondents. According to the results, 32 percent of people use telephonic interviewing as a procedure, with video interviews being the second most popular.



Chart 3

Chart 3 shows us the analysis of current talent acquisition strategy used by the organization. In this diagram form 100% ,55% of the organization use employee referral as the talent acquisition strategy around 23% of recruiter’s and company are using consultancy for the hiring strategy 11% perfect of the people use social media as there hiring.

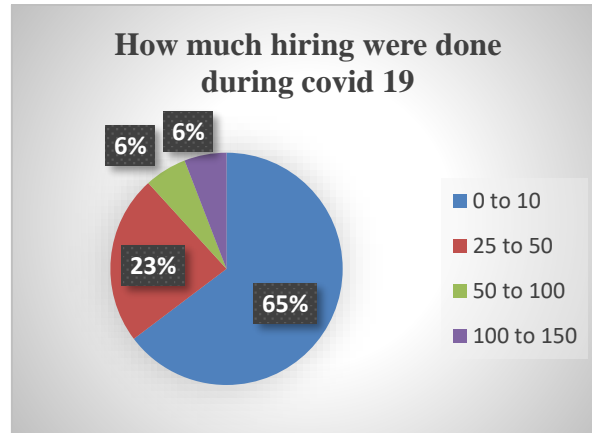


Chart 4

Chart 4 has shown how much hiring were done during covid 19, so it shows that out of 100% 65% of the of the hiring are done from 0 to 10, 25 to 50 hases the total of 23% and rest 6% are from 50 to 100.

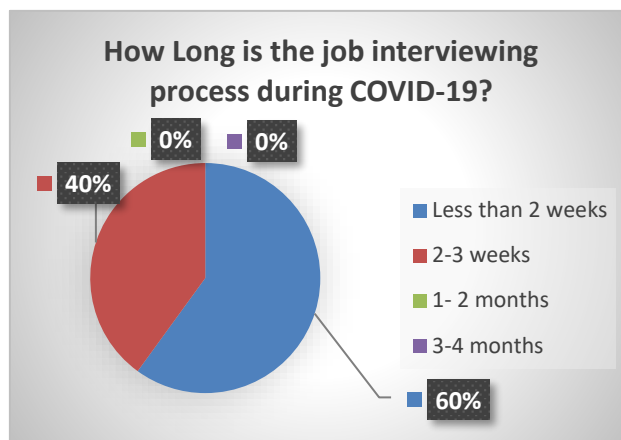


Chart 5

Chart 5 has shown the time of the job interviewing process. so, it shows that out of 100% of the organization 60% HR and talent teams takes less than 2 weeks for interviewing process and 40% of the talent teams take approximately 2 to 3 weeks of time period to complete the process and rest are 0% for both 1 to 2 months and 3 to 4 months.

HYPOTHESIS TESTING

Hypothesis was tested using percentage method. According to the data more hiring were done before covid – 19 and less during covid 19. More than 40% of hiring were done before covid and 10 % were done during covid. The companies were more focus on employee’s referral. Thus, we accept H1 There is an association between covid 19 and hiring that is

covid 19 had huge impact on recruitment in IT industry and we reject H_0 that is there is no association between covid 19 and hiring.

Findings

Nearly 31% of hiring were done before covid in the category of 100 to 150. 30% of hiring were done in the category of 50 to 100. And the rest 22.4% were done in the category of 0 to 10 video interviewing process as their current recruitment process and rest 32% use telephonic methods as practice, around 9% of the recruiter use technical method around 9% of the recruiter use technical method or testing. Around 51% of them use employee's referral as current recruitment strategy. Around 65% of hiring were done in 0 to 10. During covid 19. Out of the total respondent 60% of them takes less than 2 weeks for the job interviewing process, and rest 40% takes almost 2- 3 weeks to complete the process.

Recommendation

- There should be awards or appreciation for the employees for the best employees' referral.
- The recruitment process should be simpler, and less time consuming.
- There should be proper feedback system in recruitment process during Covid 19.

CONCLUSION

The rise in the outbreak of novel corona virus has completely turned tables in organizations especially in the Human Resource department. Change has always been the only constant in the field of HR but now a different and complete variation in the scenario has been noticed. Human Resource department not only deals with recruitment and selection, training and development, Talent Acquisition, The HR department has to look up for plethora of duties and responsibilities, therefore, to lessen their burden; their party recruitment organizations come to the rescue. They perform duties on behalf of them. Organizations of different sectors are customers of such organizations. More hiring challenges such as more hiring was done before covid 19 and less during covid 19. There was more employee's referral as new talent acquisition strategy for hiring process. More time taken for the for the feedback or the application process during covid 19.

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To Study the Impact of Recruitment Scam on Potential Employees

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ABSTRACT

This Study is related to the matter of cyber-crime and how it crashed the MNC reputation amongst the young mind which make them doubt on trusting them. The young minds get affected by such disturbing incidents which might lose their interest working for their own country. India has a growing population and the most hard-working country with skilled young and talented minds and such crime can stress and would make difficult for them to find one perfect job. Our young generation usually tends to search every answer on the internet which makes them aware a lot of relevant and irrelevant things to. Freshers in need of jobs search online if they have any suitable job so that they can earn their own money and gain some working experiences to, but sometimes they tend to fall for the Online Recruitment Fraud which can be a serious issue as the candidate is young and is not aware of the consequences.

Keywords: *Recruitment, Frauds, Online Employees Fraud, Job Scams, Employee fraud.*

INTRODUCTION

ORF (Online Recruitment Fraud) is a relatively new field of crime which can lead to extensive scams. Corporate hiring has recently been shifted to online recruiting because of the covid-19 situations around the world. This fuelled a new type of online scam that manipulate job seeker privacy and harms the reputation of the organization. ORF attempts to collect unsuspecting candidates' personal information so that they can keep a track and contact the candidate to ask if he is in any need of working experience/job. Their contact details, personal email, education profile, working experience and other relative details. Using such information of the candidate the fake recruiter tries to contact the candidate with offering them a job offer. They mostly use job portals such as LinkedIn, Naukri.com, shine etc.

Due to such fraud, it is difficult to trust any genuine job-related offer. This can be a misguide to the younger mind and can also lead to some serious crime if one is not aware of the fraud. Such crime makes it difficult for use to find any job. This can spoil or harm the reputation of the MNC and also the job portals which are been used. It can also affect the candidate in many ways. It also challenging for a potential employee to find a good job as it creates a lot of misunderstanding between the candidate and organization which be mentioned. This creates trust issues amongst the people. Frauds play with people's mind at many levels.

REVIEW OF LITERATURE

They carry out such scams by tracking candidates job profiles through job portals, offering them job opportunity with well-known MNC which eventually lead to harming the reputation of the company. (Sokratis Vidros and Georgios Kambourakis, 2016). (Shawin Dutta and Prof. Samir Kumar Bandyopadhyay,2020) states that employee's scam is one of the serious issues in the recent times addressed in the domain of online recruitment frauds. (Mark Button, Carol McNaughton Nicholls, Jane Kerr and Rachael Owen,2014) The study of research attempts to prohibit privacy and loss of money for individuals. organization by creating a reliable model to detect the fraud exposure in the online recruitment environments (Bandar Alghamdi and Fahad Alharby,2019). (Jim Gee, Mark Button, Victoria Wang, Dean Blackburn, David William,2019) claims that Recruitment fraud is when someone lies about their experience, qualification, employment history or previous integrity to help gain employment. (Cassandra Cross, 2019) It has seen offenders increasingly use virtual environments to target and defraud victims worldwide. (Jeongrae Kim, Han-Joon Kim & Hyoungrae Kim, 2019) identifies that Fraud detection is becoming an integral part of business intelligence, as detecting fraud in the work processes of a company is of great value. (Sultana Umme Habiba, Md. Khairul Islam, Farzana Tasnim, 2021) Due to advancement in modern technology and social communication, advertising new job posts has become very common issue. (Claire Seungeun Lee, 2021). (Darrell J. Steffensmeier, Jennifer Schwartz, Michael Roche, 2013) We extend the scarce research on corporate crime to include gender by developing, testing a gendered focal concern, crime opportunities framework that predicts minimal and marginal female involvement in corotational networks.

OBJECTIVES

1. To look into the matter of cybercrime.
2. To study the effects of job scams on young mind.
3. To understand the impact of recruitment crime on organization image and goodwill.

RESEARCH METHODOLOGY

Type of research:

The type of research adapted for the project is Descriptive Research. In this study a survey method was adopted. Questionnaires were used for collection of data and information was taken from internet. Thus, the information gathered constituted primary data and secondary data.

Source of data:

Primary data- The data was obtained through by a study specially designed to fulfill the data and need of the project. Collecting of data with the help of questionnaire done through circulation of google form.

Secondary data- In this research secondary data was collected through sources like Internet and News article.

Sample selection and Sample Size:

Questionnaire method used. The respondent were students, and the total number of respondents were 97.

HYPOTHESIS

H₀₁ there is no association between recruitment fraud and recruitment sites.

H₁₁ there is an association between recruitment fraud and recruitment sites.

H₀₂ there is no association between recruitment fraud and employment sector

H₁₂ there is an association between recruitment fraud and employment sector.

DATA ANALYSIS AND DISCUSSION

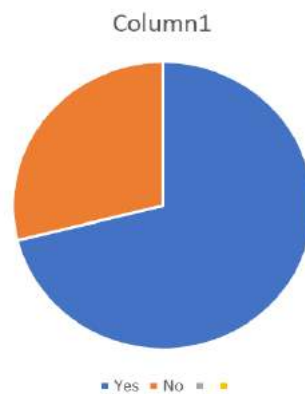


Chart 1: Knowing what recruitment fraud is

As shown in chart 1, Most of them answered with 'yes' (71%) about knowing what recruitment fraud is and the rest answered with 'no' (28%).

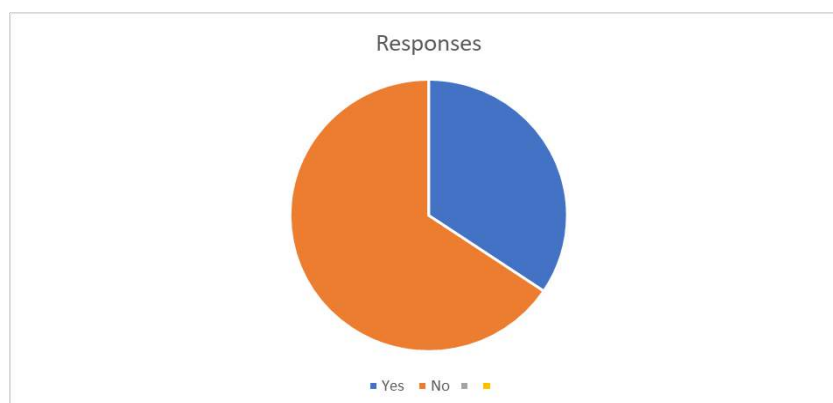


Chart 2: Receiving fake job-related calls

To this question most the responses denied on receiving any fake job-related calls and the rest agreed on receiving such calls

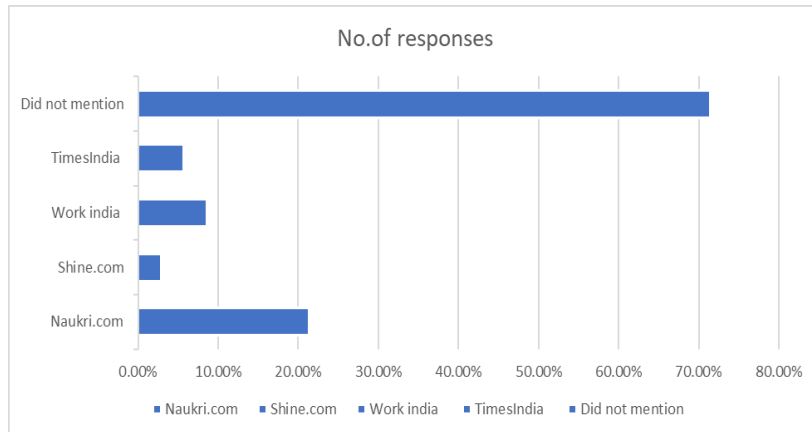


Chart 3: Calls from various websites

Most of the respondents received call from unknown portals where they did not mention any information related to them. The second most voted website was “naukri.com” and the least votes were received for “shine.com”

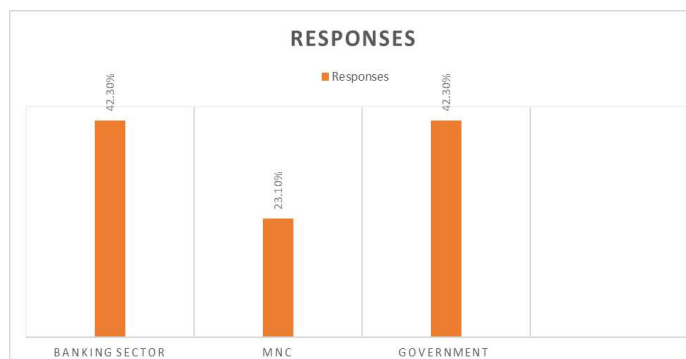


Chart 4: Calls from various job sectors

Most of them has received call for the Government Sector jobs and the second most voted was Banking Sector. Least voted was the MNC sectors.

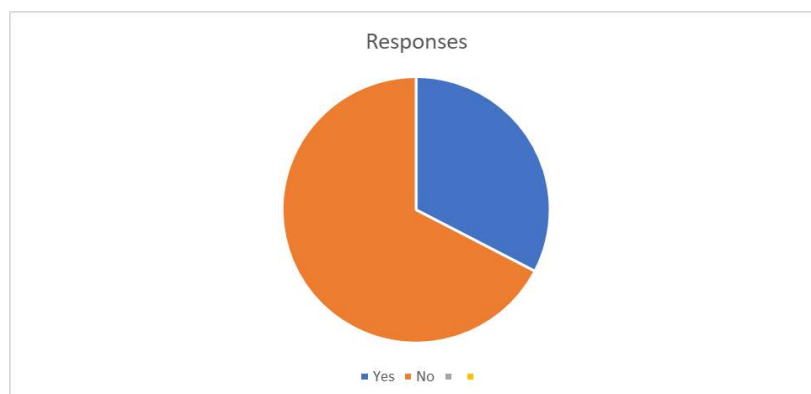


Chart 5: If respondent agreed to pay the asked amount

Chart 5 shows that most the respondent had disagreed on asking to pay any particular amount (67%) and the rest answered with no which was (33%).

FINDINGS

With the help of survey, we have come out with result which supports our project strongly. This project contains suggestion and information from worldwide authors with the help of their article found from google. After reading about this topic, we got to know in depth knowledge about ways the recruitment scam is carried out. Fake job racket is one of the increasing crimes in the nation and worldwide. 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 college in small town are easily trapped. The scammer targets the young mind or the village area students as they are underdeveloped and not properly educated on such topic. The recruiters provide good package with stating it is from a well-known Organization and tries to manipulate the candidate to pay certain fees for further process. As people are still not educated about such matter and fraud, they tend to become the victim and fall for such scams.

HYPOTHESIS TESTING

The above hypothesis was tested using percentage method. From the above data we accept H_1 i.e., there is an association between recruitment fraud and recruitment sites and reject H_0 there is no association between recruitment fraud and recruitment sites.

As we can see from the above data recruitment frauds happen for both private and public sector i.e., (42% is from the government sector and 42.3 from banking sector and 21% from the MNC).

Hence, we accept H_{12} there is an association between recruitment fraud and employment sector and reject H_{02} there is no association between recruitment fraud and employment sector.

CONCLUSION

The project state the fraud can be a very harmful situation to deal with for the young employees who have just stepped into the organizational world. It can be demotivating and can also build trust issues and bad image of a reputation organization in the people's mind. This project is created to throw some light on this increasing scams. Such situation can lead to harming young and talented minds of the youth. People should be more careful while facing such situation and be smart minded to deal with it. One facing such misleading behaviour should always make a report to the authorities so that Cybercrime can take precaution and preventive measures for controlling such frauds with the help of government. Most of the victims are unaware of the situation and circumstances. People should be smart and educate themselves of such scams so that they do not become the victim.

Recommendation:

1. The government should impose proper law against such frauds.

2. The cybercrime department should work with their IT Team and abort such fake websites which are being operated.
3. The Universities/ Colleges should make the students aware of such happens and how to deal with such situation.
4. There should be special sessions for the students in order to avoid such frauds.
5. The government authorities should do take actions regarding such scams which can give the victims their justice

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A Study about Investment Options: Shares vs Mutual Fund

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ABSTRACT

Shares are the physical representation of a small portion of a company's value that are traded in the stock market. When a company goes public and issues shares, the combined value of the shares of the company in the stock market and/or owned by persons, constitutes the total value of the company. Being a shareholder is in effect owning a small part of the company and means that one can take part in the annual shareholder meets. Mutual funds are a collection of stocks and bonds that are managed by fund managers in an Asset Management Company (AMC). If it is an equity mutual fund, it will contain stocks, while debt mutual funds will contain government bonds and securities. A mutual fund is like a huge basket with shares from several companies. For example, DSP BlackRock Micro Cap Fund consists of stocks of 62 companies from diverse sectors, including Finolex Cables, DCB Bank, Manappuram Finance, Somany Ceramics, JK Lakshmi Cement, Siyaram Silk Mills, Ashiana Housing and Sun Pharma. Investment in mutual funds is a form of investment in stocks and bonds that is managed by an AMC or investment house, while direct investment in stocks and shares is an active form of investment, where you are handling the purchase and sale of the products yourself. The institutionalization offered by mutual funds is good for a new investor, while direct investment in shares is good for those who know the market and can handle it themselves.

Keywords: *shares, mutual funds, difference between shares and mutual fund, common person.*

INTRODUCTION

When establishing a corporation, owners may choose to issue common stock or preferred shares to investors. Companies issue equity shares to investors in return for capital, which is used to grow and operate the firm. Unlike debt capital, obtained through a loan or bond issue, equity has no legal mandate to be repaid to investors, and shares, while they may pay dividends as a distribution of profits, do not pay interest. Nearly all companies, from small partnerships or LLCs to multinational corporations, issue shares of some kind.

Most companies issue common shares. These provide shareholders with a residual claim on the company and its profits, providing potential investment growth through both capital gains and dividends. Common shares also come with voting rights, giving shareholders more control over the business. These rights allow shareholders of record in a company to vote on certain

corporate actions, elect members to the board of directors, and approve issuing new securities or payment of dividends. In addition, certain common stock comes with pre-emptive rights, ensuring that shareholders may buy new shares and retain their percentage of ownership when the corporation issues new stock.

In comparison, preferred shares typically do not offer much market appreciation in value or voting rights in the corporation. However, this type of stock typically has set payment criteria, a dividend that is paid out regularly, making the stock less risky than common stock. Because preferred stock takes priority over common stock if the business files for bankruptcy and is forced to repay its lenders, preferred shareholders receive payment before common shareholders but after bondholders. Because preferred shareholders have priority in repayment upon bankruptcy, they are less risky than common shares.

The money pooled in by a large number of people (or investors) is what makes up a Mutual Fund. This fund is managed by a professional fund manager. It is a trust that collects money from a number of investors who share a common investment objective. Then, it invests the money in equities, bonds, money market instruments and/or other securities. Each investor owns units, which represent a portion of the holdings of the fund. The income/gains generated from this collective investment is distributed proportionately amongst the investors after deducting certain expenses, by calculating a scheme's "Net Asset Value or NAV. Various types of Mutual Fund schemes exist to cater to different needs of different people. Largely there are three type of mutual funds.

OBJECTIVES

1. To know what is shares.
2. To know what mutual fund is and why to choose them.
3. To analysis in depth about what common man chooses.
4. To understand the ideology of people towards investment.

REVIEW OF LITERATURE

Scripbox is a site in which Satyum pati has done research on "shares vs mutual fund" and had come to an dicey conclusion which says, "If you want to benefit from the inflation-beating returns generated by equities.

without many of the drawbacks of direct equity investing, but are constrained by time and expertise then, the best way to earn those returns is by investing through mutual funds"

In the same way, HDFC funds site has done a research and made clear with its article that mutual fund is best to enhance your investment but also said that one can go for equity if you are skilled enough. The conclusion of the research was as follows, "In a nutshell it would be safe to conclude that you can consider investing directly in equities, if you are skilled enough to do so and can dedicate the time and research such investment requires. If you do not have

either, it is best to opt for the mutual fund route to make the most of the professional fund management to enhance the value of your investments. It is however recommended that whatever route of investment you choose, you take a look at regular intervals and assess whether your financial goals are being met as a result of your investments.”

De Bondt and Thaler (1985) while investigating the possible psychological basis for investor's behaviour, argue that mean reversion in stock prices is an evidence of investor overreaction where investors over-emphasize recent performance in forming future expectations

According to a survey conducted by a leading business newspaper almost 76% of the people interested in mutual funds are between the age bracket of 20 to 40. Out of these investors, only 31% invest in mutual funds for the long term. It is obvious that the information regarding mutual fund reaching them is not very adequate or in some cases distorted.

From the above review it can be inferred that Mutual Fund as an investment vehicle is capturing the attention of various segments of the society, like academicians, industrialists, intermediaries, investors, and regulators for varied reasons and deserves an in-depth study.

RESEARCH METHODOLOGY

Shares vs Mutual Fund:

Main point of difference between shares and mutual funds:

1. Shares are a part of a business's growth strategy, while mutual funds are investment options for individuals.
2. Trading in shares requires you to have a demat account. Mutual funds do not need a demat account, though if you have one, you can use it to handle mutual funds.
3. Mutual funds being a portfolio of stocks of companies pre-determined and altered by a fund manager, you as an investor have no control over the actual choice or trade of stocks. You also cannot choose to exit from 1 or 2 of the stocks from the portfolio.
4. Mutual funds are managed by a fund manager in an AMC. This external management of portfolio ensures that there is direct involvement on the part of the investor except at the time of choosing the fund. For this reason, mutual funds are ideal for a new investor who does not know much about the stock market. Direct investment in shares, on the other hand, requires strong knowledge of the stock market and company performances. It is a hands-on activity involving quick market decisions and is better for experienced stock traders.
5. Because mutual funds hold a diversified portfolio, negative returns are cushioned by the other stocks that do well. For example, if your portfolio contains 35 stocks, of which 3 are dropping, even the slightest growth in the other 32 will prevent your overall fund value from coming down. Direct investment in stocks does not offer you this protection and makes your stocks volatile. Unless you are dealing in a significant number of stocks at the same time, your money will be at high risk

6. Mutual funds have a longer-term growth trajectory and will give good returns only after 5-7 years, while shares could give you quick returns if you buy and sell at the right time and choose high-growth stocks.

ANALYSIS

From my survey results, I came to the conclusion that most of the people were students and were in their tender age that is 19 to 25. It's usually predicted and said that youngsters don't get attracted to investment but since our education syllabus has topics and subjects related to investment so there's a successive growth in investment by youngsters.

There has been a fairly competition between shares and mutual funds. Most of the people are risk takers and wants high return in short span of time and so they have chosen shares. Shares is a great form of investment but only if you have in depth knowledge about it. Mutual funds are the best option for people who have less knowledge and wants to have a positive portfolio. Investments in cryptocurrencies are not as complex as stock investments, where numerous stocks are available to confuse us every day. The bottom line is that cryptocurrencies can be safe, but if not taken appropriate safety measures, they can be hacked as well. we can conclude that most investors have invested in equity scheme in order to get more return than bank FD's, post office schemes etc. These investors are considered aggressive investors when it comes to investment style.

To understand why shares or mutual fund an investor chooses, let's know in depth about it. Stocks (equity) is part ownership of a company. A mutual Funds, on the other hand, is an investment led by professional managers. These fund managers invest in various options like shares and bonds depending on the type of mutual fund. A mutual fund comprises of a pool of money collected from various investors for the purpose of investing in diversified securities. Therefore, when compared to in terms of risk, stocks happen to be far riskier than mutual funds. Investing directly in equity for a beginner is quite a tough task ,the choice is quite straightforward and that is to invest through mutual funds. Mutual funds have the advantage of reducing the risk by diversifying a portfolio by investing in a large number of stocks. Stocks, on the other hand, are vulnerable to the market conditions and the performance of one stock can't compensate for the other. Therefore, the risk factor is very high in terms of stocks.

When one invests directly in equities, he/she will need to invest a lot more time and research into a stock whereas in the case of mutual funds one can be a passive investor. The fund manager is the one who invests his time to manage the portfolio. One should also note that though equities as an asset class are risky as compared to equity mutual funds. A person having sound knowledge of finance and having experienced enough to withstand the nitty-gritty of the markets is sure to make money through investing directly in equities.

CONCLUSION

Many experts agree that almost all of the advantages of stock diversification (the benefits derived from buying a number of different stocks of companies operating in dissimilar sectors) are fully realized when a portfolio holds around holds 20 stocks from companies operating in different industries. At that point, a large portion of the risk associated with investing has been diversified away. The remaining risk is deemed to be systematic risk or market-wide risk. Since

most brokerage firms charge the same commission for one share or 5,000 shares, it can be difficult for an investor just starting out to buy into 20 different stocks.

That's where mutual funds come into play. Mutual funds offer investors a great way to diversify their holdings instantly. Unlike stocks, investors can put a small amount of money into one or more funds and access a diverse pool of investment options. So, you can buy units in a mutual fund that invests in as many as 20 to 30 different securities. If you were looking for the same thing in the stock market, you'd have to invest much more capital to get the same results.

Mutual funds also invest in a variety of different sectors. So a large cap fund may invest across different industries like financials, technology, health care, and materials. Again, if you were to try to match this through individual stocks, you'd have to spend a lot of money to get the same returns.

The convenience of mutual funds is surely one of the main reasons investors choose them to provide the equity portion of their portfolio, rather than buying individual shares themselves. Some investors find that buying a few shares of a mutual fund that meets their basic investment criteria easier than finding out what the companies the fund invests in actually do, and if they are good quality investments. They'd prefer to leave the research and decision-making up to someone else.

Determining a portfolio's asset allocation, researching individual stocks to find companies well-positioned for growth as well as keeping an eye on the markets is all very time-consuming. People devote entire careers to the stock market, and many still end up losing money on their investments. Although investing in a mutual fund is certainly no guarantee that your investments will increase in value over time, it's a good way to avoid some of the complicated decision-making involved in investing in stocks. It's important to remember there are disadvantages of mutual fund investment as well, so as with any decision, educating yourself and learning about the bulk of available options is the best way to proceed.

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A Study on financial planning and management with respect to females in Mumbai City

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ABSTRACT

As we know management in simple terms means directing, leading, or controlling certain factors to reach a goal. Similarly, financial management means managing the cash inflow and outflow, in order to have financial control or financial stability not only regarding current but also with respect to future financial plans. Financial growth happens with effective and adequate financial investment policies and funds. To attain financial stability, one must ensure a proper balance between inflow and outflow of funds. Females are very strong invested since beginning of barter. They manage the finances for household expenses and also save money for various reasons, mainly being emergency funds.

***Keywords:** Directing, controlling, leading, organizing, investing.*

INTRODUCTION

Financial management provides pathways to attain goals and objectives in an organization. To manage finances, it is important to measure organizational efficiency through proper allocation, acquisition and management. It provides guidance in financial planning. It helps in acquiring funds from different sources. Due to the multiple roles that women play on daily basis, as household managers, consumers, or business owners, having a strong financial management is extremely important. There are various factors that influence a female's decision while dealing with their finances. Due to various roles a female plays it's extremely important for them to have a sound mind while making a financial decision. And it is very important to know one's perspective or attitude while managing finances.

REVIEW OF LITERATURE

There are number of studies available, which have discussed the difference in financial behaviour of male and female investors and the factors which influence this behaviour. Researchers like Suden et al.(1998) Julie R. Agnew (2005), Perrin (2007), Oslen and Cox(2001), Schmidt & Sevak (2006) shows that Proceedings of International conference on Business Innovation and IT organized by College of Applied Education &Health Sciences, November 28th, 2015 women are more risk averse then men in general and this defines their

choice of less risky assets in their portfolios. Except this, Guiso, Jappelli and Terlizzese (1996), Bajtelsmit and VanDerhei (1997), Hariharan, Chapman and Domain (2000), Hartog, Ferrer-I-Carbonell and Jonker (2002) concluded that males are more risk tolerant than females. Powell & Ansic (1997) find that men have significantly higher preference for risk than women. Males prefer “riskier” investment strategies in order to achieve the highest gains, while women select “safer” strategies that allow them avoiding the worst possible losses [Odean (1998), Barber and Odean (2001), Benartzi and Thaler (2001), Gervais and Odean (2001), and Daniel and Huberman (2003)]. Graham (2002) found that women have less confidence regarding their decision related to financial issues. Fellner & Maciejovsky (2007) reveal a systematic correlation between gender and risk attitudes. Further Fellner & Maciejovsky (2007) find that women prefer less volatile investments and exhibit lower market activity, e.g. they submit fewer offers and engage less often in trades. Women give a lot of priority and importance to the advice given by Financial Advisors (FA) and depend on them for guidance than men. Female investors are more detail oriented; and want to read more and understand financial matters better and they ask more questions than male clients (Worley, 1998). Jianakoplos & Bernasek (1998) test gender differences in investment behavior on a large data set drawn from the Survey of Consumer Finances (CFS) 1989. The analysis reveals that single women are relatively more risk averse than single men or married couples. Women give a lot of priority and importance to the advice given by Financial Advisors (FA) and depend on them for guidance than men. Female investors are more detail oriented; and want to read more and understand financial matters better and they ask more questions than male clients (Worley, 1998). Some studies concluded that since women earn less compared to men, they have lower wealth accumulation and hence lower investment and saving rates [Blau & Kahn (2000), Moore & Shierholz (2004), O’Neill (2003)]. In India there are very few studies which have presented these gender gaps. Madhusoodanan (1997) suggested that risk tolerance serves as an illusion of control and thus overconfidence. Somasundaram (1998) concluded that the investors of Coimbatore prefer the bank and chit fund deposits to save. Mutual funds are the least preferred instrument for investment. Rajarajan (2003) and Shobhana and Jayalaxmi (2005) bought out the fact that there is a strong association between the demographic factors and the risk tolerance of the investors. Sharma and Sharma (2004) pointed out that the retail investment activity in India is very low. However, the young generation of Jammu holds a positive attitude towards the stock market with moderate belief. Rajarajan (2010) revealed that the population of Indian investors has increased in the recent years. Similarly, the surveys organized by government bodies such as NCAER, RBI Survey talk about the individual investor’s investment and saving behavior. In the same line, Hira and Mugenda (2000) state that an advisor needs to understand the factors that underlie a client’s financial behaviors before they can effectively advise them, and numerous studies have shown that men and women think and behave differently when it comes to managing money. Proceedings of International conference on Business Innovation and IT organized by College of Applied Education & Health Sciences, November 28th, 2015 However there exist some studies which denies the existence of any gender gap. For example, Schubert et al. (1999) find no influence of gender on financial decisions. Masters and Meier (1988) found no difference in the risk-taking propensity of male and female entrepreneurs.

OBJECTIVES

1. To understand the theoretical meaning of financial planning and management for investment.
2. To evaluate the financial knowledge of females.
3. To study the attitude of females towards different types of investment avenues.
4. To provide suggestions to female based on findings.

RESEARCH METHODOLOGY

Method of collection : Primary and Secondary data of female population (age group :18 – 40). Convenience sampling with sample size of 50. Area of study is Mumbai.

HYPOTHESIS

Majority of women look out for low-risk investments. Because of this they usually invest in Bank Fixed deposits or government related securities or even gold as they believe that these are safer investment avenues as compared. Also, they usually are unaware of their portfolio and give it in the hands of a family member to manage it rather than doing it themselves.

DATA ANALYSIS AND INTERPRETATION

Designation

66 responses

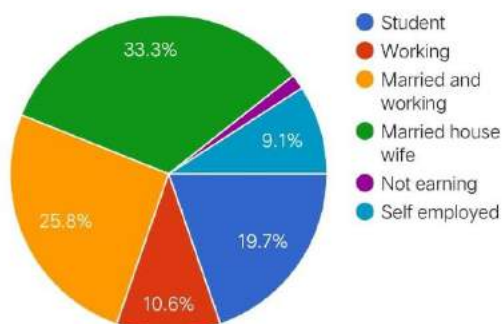


Chart 1: Q1-Designation

Do you plan your investments?

66 responses

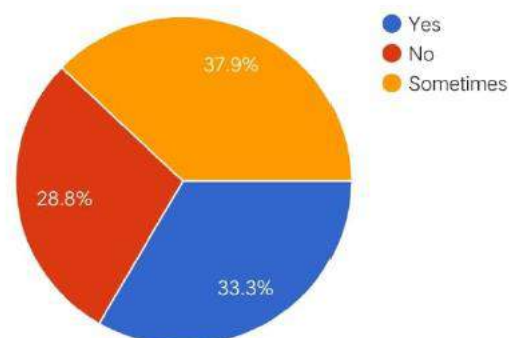


Chart 2: Q2-Do you plan your investments

From the data we have collected we can see that majority of females do not plan their investments. This could also imply that many of them are not very regular with their investments.

Are you able to manage your financial investments with family (or work)?

66 responses

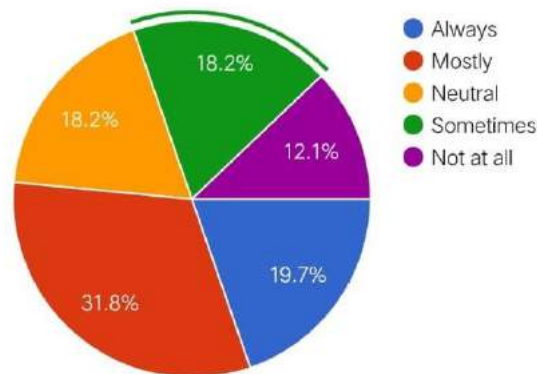


Chart 3: Q3-Are you able to manage your financial investments

Due to either work or family females fail to manage their finances themselves. It makes it difficult for them to track the investment instruments regularly and hence they are not able to always manage their finances.

Age Group

66 responses

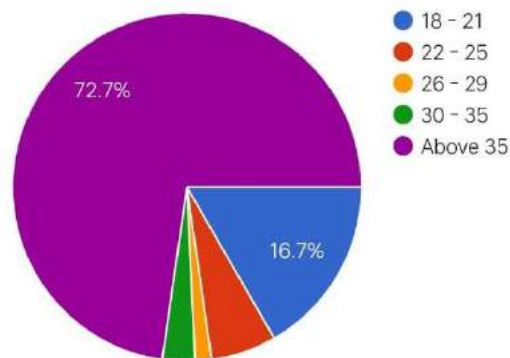


Chart 4: Q4-Age Group

Most females who invest are above the age of 35 years. From this data we can interpret that either they are not aware of the investment avenues and financial instruments or they simply delay their investments either due to fear or time limitations.

Monthly income

66 responses

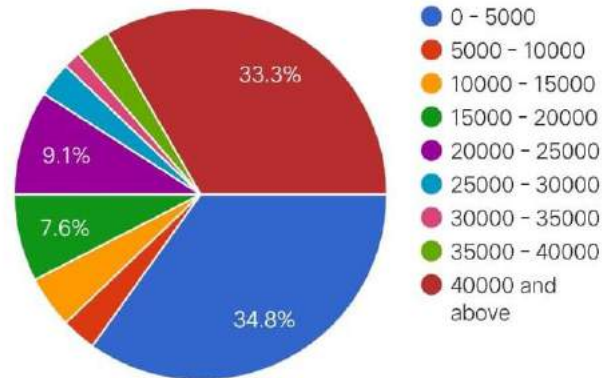


Chart 5: Q5-Monthly income

Monthly income of females has a very broad spectrum and it's weighted more on the ends. Because of uneven distribution and fluctuating income, they tend to diverge from regular investments.

How much % of your income do you invest?

66 responses

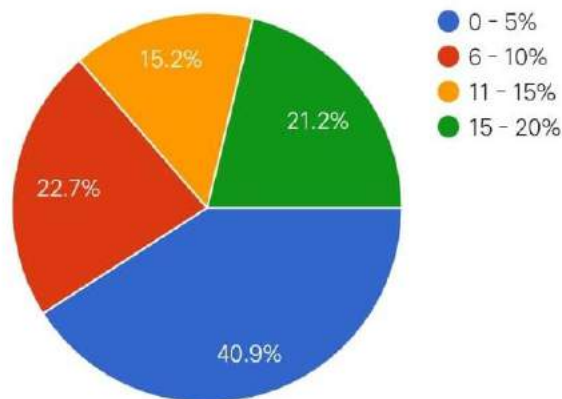


Chart 6: Q6-Percentage of income you invest

Most females invest about 5% of their income. This also helps us to understand the budget or amount of investment that they are able to make every month.

How much knowledge you have about various investment avenues?

66 responses

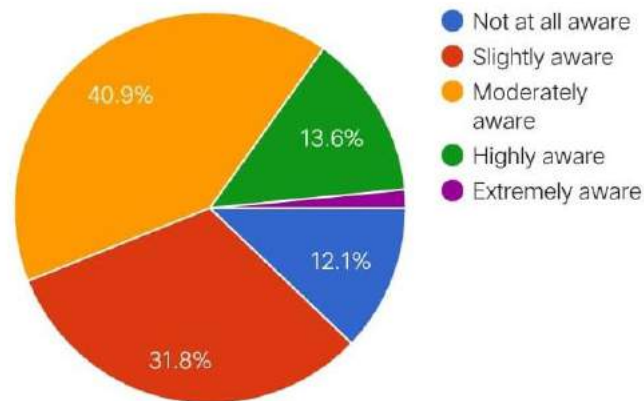


Chart 7: Q7-Knowledge about investment avenues

High ratio of females is little to moderately aware of the varied investment avenues. This lack or insufficiency of knowledge becomes a factor of hindrance in their investment picks and opportunities.

What is your attitude while investing your money?

66 responses

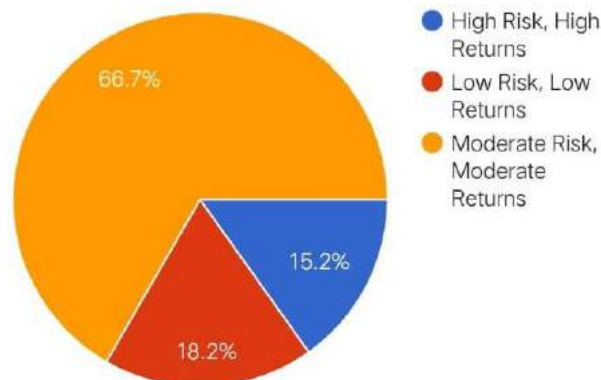


Chart 8: Q8-Different attitudes while investments

Majority of females prefer moderate risk and return. While on the other hand there are very less females who go for higher risk and high return attitude towards investments

What investment avenues you invest in?

66 responses

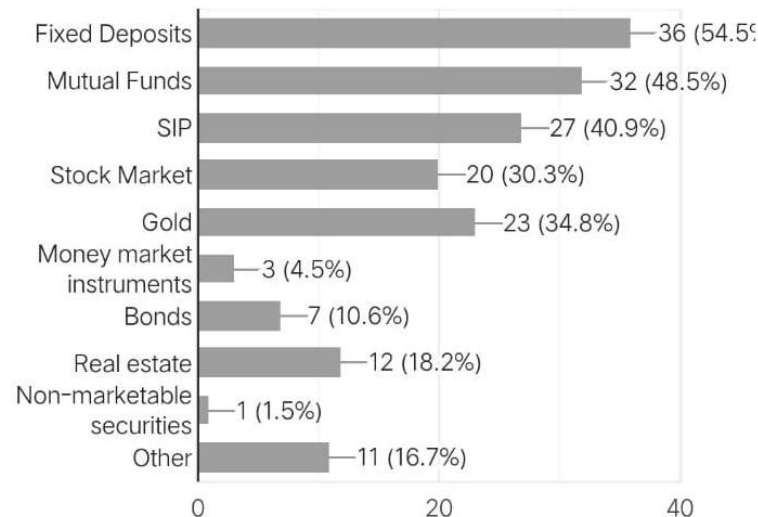


Chart 9: Q9-Investment avenues

As shown in Chart 9, many of them invest in a safer or less risk investment option like fixed deposited, Mutual funds, gold, government securities. Very few are aware of Money Market instruments and non-marketable securities.

FINDINGS

Given below are some of the findings from the collected data from across Mumbai city :

- First, we can see that majority of females who invest in financial instruments are above the age of 35.
- Also, this shows that majority of females in this city invest late in their life.
- Females who invest do not plan their investments on regular basis and/or are dependent on someone else for their investments.
- Females are moderate risk takers which constraints them from exploring the high return instrument as it comes with higher risk.
- As seen, females lack proper financial knowledge because of which they are unable to handle their portfolio themselves.
- Due to lack of financial knowledge females tend to invest in lesser risk options.
- We have also found out that income spectrum is very imbalance between working females and hence they are able to invest majorly up to 5 - 7% of their income only.
- We also found out the crucial part as to why females are behind with their investments is mainly because they are not aware to of the investment avenues available to them.

E.g., Non-marketable securities, Money Market instruments, Tax free returns on instruments, etc

- Also due to lack of early financial knowledge females are not able to plan out their investment as they are not able to manage time between work, family and tracking the markets for investments.

SUGGESTIONS

There are various ways in which one can create a more diversified portfolio for themselves. Given below are few suggestions :

- Females in Mumbai city can be made aware of varied financial instruments that can be helpful for them to achieve their short-term goals as well.
- Also, they should be educated on not only government but also private sector financial instruments. This will help them to take a leap of higher risk.
- Females should be encouraged to invest since an early age. This will not only help in diversifying their portfolio but will also help them to understand risks of market and will hence, help them to track it themselves.
- Adding to it, helping them to learn finances and investments at an early age will also help them to have financial independence and also will help them to make an early retirement plan for themselves.

CONCLUSION

According to their age, designation, income and other factors we can see that one of the major points is lack of financial education. Also, from our analysis and findings we can say that majority of our hypothesis was proved to be true. Over a course of te lot of females with modern adaptation of finances are trying to diversify their portfolio. Compared to old times now females are taking moderate risks rather than less to no risk. With a better access to financial literacy, they can confidently invest in instruments other than fixed deposits or government securities.

LIMITATIONS AND SCOPE FOR FURTHER STUDIES

This study was conducted in the Mumbai City of Maharashtra hence the results reflect the investment objective. Preferences of this was only females. The result cannot be generalized for other parts of the country. The sample size was of 60 respondents which may give a chance of sampling error. The responses of the sample population could be biased as they might be reluctant to share financial information about the investment pattern.

Scope for future research - The study is specific to females in Mumbai city and cannot be generalized to other parts of the country thus the similar study can be conducted for various cities of the country. The study recognizes the existence of relationship/no relationship between investment objective and investment preferences. Further research can be directed towards other investment objectives like where females get their tips from, or the various platforms they use and how much they trust investing through online websites and other factors influencing the decision of the females can be studied.

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Commerce + good management = commencement of stable market

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ABSTRACT

The arrival of internet and smart phone has created revolutionary change in the way purchase. Smart phone and internet have become necessity of everyone's life.

Keywords: management, market, E-commerce, economy, E-pay.

INTRODUCTION

Developments in technology & computerization with internet have been greater impact on commerce and management sector both in education and business.

This paper discusses the recent trends in e-commerce , the management and also limitations of e-commerce & various commerce models.



Figure 1: E-Commerce options

OBJECTIVES

To study how commerce and management contribute equally in order to boost India's economy.

REVIEW OF LITERATURE

commerce means electronic commerce. E- Commerce involves buying and selling of goods and services, or the transmitting of funds or data, over an electronic network, predominantly the Internet. It enables us to order for goods sitting at home. Customers can select the required

products a variety of products that are available online. The payment for the product can also be done using debit card, credit card and e-cash or e-wallet.

E-commerce (Electronic commerce) is a paradigm shift influencing both marketers and the customers. Rather, e-commerce is more than just another way to boost the existing business practices. It is leading a complete change in traditional way of doing business.

RESEARCH METHODOLOGY

1. Studied current situation of market.
2. Had discussions with people from various fields and took their views about how commerce and management can play equally important role in boosting India's economy.
3. Secondary sources like newspapers (mainly TOI).

DATA ANALYSIS

One of the most significant developments in society over the past ten years has been the expansion of products and services to consumers using information technology. The Internet, mobile telephones and Wi-Fi technology are some examples of technology platforms that have enabled products and services to be offered in new and innovative ways. As technology products and technology-enabled services have expanded, the need to better understand how users adopt technology and technology enabled services has become increasingly important. Entire businesses such as Amazon, Google and Nokia have been built around the successful use of technology to provide products and services to customers while governments have also realized the transformative role this approach can play. The acceptance and adoption of technology-based services and products is thus of central importance to organizations and governments. When marketing & managing it properly goes hand in hand, it is called as e-commerce management. There is a particular person named e-commerce manager for this purpose, he is responsible for online branding, maintaining freshness & maintaining quality of e-commerce website addressing legal matters, promoting the site & creating a business plan for e-commerce initiative.

Covid -19 pandemic was a global catastrophe. No one remained untouched from its impact. In this situation, the world changed a lot, E-commerce will only get bigger and better as the year moves on, New technologies will help achieve that. The coronavirus has changed things all over the world & is expected that buying behaviour is likely to boom. More and more people prefer buying things online because they are not willing to step out and risk exposure. As the mid-April revenue growth has increased by 68% on year over basis & there has been 129% over year growth in Us & Canadian E commerce orders. Commerce rates have also increased to almost 8.8% primarily due to stay-at-home orders affecting a vast e-commerce business & now it's easy to say if you do not have e-commerce business you are missing serious revenue.



Figure 2: Recycling

Recycling:

Recycling can also play a vital role when it comes to changes in trade and commerce.

According to an article in The Times of India, "Recycling as a complicated as it seems is actually a simple set of actions that allows the bettering of both environment & economy at large scale. While most people are gaining awareness, what they lack is knowledge to recycle properly."



Figure 3: Development Finance Institution

Development Finance Institution:

DFI infrastructure development can be India's highway towards prosperity. In emerging nations, financial markets are not enough to meet the full spectrum of development needs. DFI fill the gap between support, particularly to fund riskier projects that will require long-term money. In India, the proposed DFI will be set up by legislation and backed by 20,000 crore of government capital.



Figure 4: E-Pay

E-Pay:

An electronic payment is any kind of non-cash payment that doesn't involve a paper check. Methods of electronic payments include credit cards, debit cards and the ACH (Automated Clearing House) network. The ACH system comprises direct deposit, direct debit and electronic checks (e-checks). Virtually all interested parties are exploring various types of electronic payment system and issues surrounding electronic payment system and digital currency.

This newly introduced e- payment system has number of requirements/factors e.g., security, acceptability, and perceived enjoyment, and perceived speed, ease of payment, convenience, cost, anonymity, control, and traceability, among others. Actually, this system isn't something new , it was present between us from a long time, recent covid-19 pandemic made us mandatory to use digital payment systems. With the immense participation of the web in our everyday life, individuals feel accustomed to online exchange in E-Commerce for selling and purchasing of products and ventures. People are paying cash electronically over the Internet. Moreover, the rise of web-based business has led to new money-related necessities that by and large can't be viably satisfied by the customary methods of payment. Following to this growing trend, related individuals are investigating different electronic systems of payment including issues encompassing electronic system of payment and digitized currency. Every single transaction that takes place online is made via payment gateways which act as points at which the financial organizations can be accessed. Payment gateways authorize and validate details of payment between different parties and the various financial organizations

CONCLUSION

In general, today's businesses must always strive to create the next best thing that consumers will want because consumers continue to desire their products, services etc. to continuously be better, faster, and cheaper. In this world of new technology, businesses need to accommodate to the new types of consumer needs and trends because it will prove to be vital to their business' success and survival. E-commerce is continuously progressing and is becoming more and more important to businesses as technology continues to advance and is something that should be taken advantage of and implemented.

From the inception of the Internet and e-commerce, the possibilities have become endless for both businesses and consumers. Creating more opportunities for profit and advancements for businesses, while creating more options for consumers. However, just like anything else, e-commerce has its disadvantages including consumer uncertainties, but nothing that cannot be resolved or avoided by good decision-making and business practices.

There are several factors and variables that need to be considered and decided upon when starting an e-commerce business. Some of these include types of e-commerce, marketing strategies, and countless more. If the correct methods and practices are followed, a business will prosper in an e-commerce setting with much success and profitability.

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Understanding the need and Impact of Menstrual Leave

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ABSTRACT

Menstrual leave is a need of every women employee. Getting a break during menstrual Cycle will help to take a time out to relax and take care of themselves from everyday office work and to overcome their body requirements. Many women's face several pain, cramps, and muscles pain. These conditions are severe at times and can cause a mental disturbance at workplace. Which creates inefficiency in working performance. The next biggest problems face by women's in office's are the hygienic conditions which are not up to the mark this leads to put women's in a discomfort zone at workplace. The convenient sanitation facilities are not available at office s which create an improper working environment. These factors lead to dissatisfaction and mental anxiety to work during the menstrual cycle. During the menstrual cycle most of the women employees tend to take a leave or employees are not willing to perform. This decreases the employees' performance productivity and also cause health issues. This it becomes necessary to provide menstrual leave. Menstrual leave is an employment policy that allows individuals to take additional paid or unpaid leave for m work during menstruation.

Keywords: *menstrual leave, women's, productivity, performance, health issues, workplace, employee benefit.*

INTRODUCTION

The role of women in today's world has changed significantly and for better. They have attained immense success in every field whether it is sports, politics or academic. They have struggled hard over the last few decades but still been able to successfully establish their own identity. Today's women are adorned with patience and perseverance, which has helped them to attain the pinnacle of success. There's a rapid increase in the level of working women. But biologically their body needs some rest during menstruation cycle. To overcome their body requirement. Many women face several pain cramp and muscles pain. Also, there are no proper sanitation facilities provided at workplace. Which puts women in a discomfort zone at the workplace. To overcome this There is a need of menstrual leave to be provided for women's during their menstruation. Apart from sick leave provided. The menstrual leave provided has various positive and negative impact. Menstrual problems can significantly impact daily work life. There should not be any shame or stigma attached to applying period leave. Menstruation related symptoms often cause women to have lowered productivity or even be absent from work in extreme case's

OBJECTIVES

1. To understand the acceptance of Menstrual Leave.
2. To understand the impact of Menstrual leave on overall business functioning.
3. To create awareness regarding the importance of Menstrual Leave.

REVIEW OF LITERATURE

Menstruation related health issues are a major reason for the fall in female workforce participation rate. It is also a cause for discrimination at work, and women being punished for experiencing issues that are purely biological in nature. In order to achieve an equal and inclusive workplace, paid menstrual leave is an important policy measure to encourage a conversation around menstrual health and also to incentivize women to join the workforce. (Rehmat Swani 5,2020) The motivation behind the promotion of the policy is typically benign, and it is often positioned as being a progressive development in women's health and rights in the workplace. (Sally King 2021) Despite global efforts to reduce poverty among women in such contexts, there has been insufficient attention to the water and sanitation related barriers, specifically in relation to managing monthly menstruation, that may hinder girls' and women's contributions to the workplace, and their health and wellbeing. (Sommer M. Chandranatha 2016). Menstrual leave raises a number of questions regarding women's health, workforce participation and gender equity at work(Jyothsna Belliappa 2018). the implementation of the policy would not create BAISESNESS among employees working in the organization (Sanjana Marathe and Vjohn Paul rai). It's not possible to perform regular work as they would make many mistakes while performing their job and also not able to focus on their work (M K.Kasamatsci and M. Kumashiro). Menstrual periods may affect women's quality of life and economically lead to reduced income due to lost working time and work productivity of the women workers. (Laila Nuranna, I F Tihas, Abdullah, I Putu, G Kayika, Gita Pratama 2018). menstrual leave argue that such policies have the potential to de-stigmatize discussion of menstruation in the workplace and may be helpful to those who experience menstrual cycle-related illnesses.(Rachel Levitt and Jessica Barnack). Menstruation affects women's well-being and discretionary helping on a day-to-day basis – an important step in understanding how factors tied to women's health affect them daily at work.(Daphna Motro, Allison Gabriel and Aleksandar) Menstruation related symptoms cause a great deal of lost productivity, and presentism is a bigger contributor to this than absenteeism. (ME. Schoep 2019). Those who experience menstrual pain as well as endo pain, like other people with disabilities, lose out when it comes to productivity and income due to pain-based interruptions of work.(Ela Przybylo and Breanne Fahs 2018).

RESEARCH METHODOLOGY

In this study a survey method was adopted questionnaire were used for gathering of data. The information gather constituted of primary data and secondary data

Primary Data

This data was Gathered by collecting of data with the help of questionnaire and interviews from the respondents which were both male and female.

Secondary Data

The data was gathered from published or unpublished sources. In this research secondary data was collected through sources like internet, news articles and books.

Sample selection

Questionnaire

Sample size

Sample size is 109

HYPOTHESIS

H₀₁ – There is no significant need for paid menstrual leaves in organizations.

H₁₁ – There is a significant need for paid menstrual leaves in organizations.

H₀₂ – The provision of menstrual leaves has a significantly more negative impact on the business functioning.

H₁₂ – The provision of menstrual leaves has a significantly more positive impact on the business.

DATA ANALYSIS

A survey was conducted for research through questionnaire.

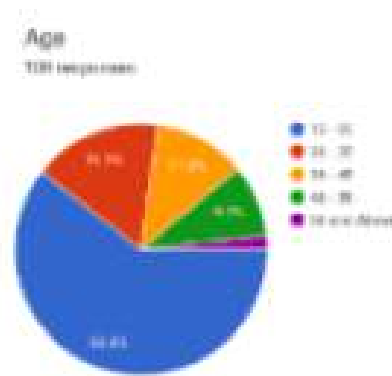


Chart 1

Majority of the people who were interviewed were between the age group of 15-25 years.

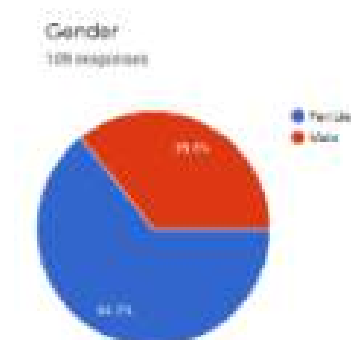


Chart 2

Majority of respondents are females with 64.2 percentage which is the highest.

Q1. Do you think should women's be entitled for Menstrual Leave?
109 responses:

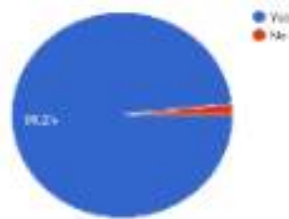


Chart 3

Majority of the respondents agree that women’s must be entitled for a menstrual level. Out of 109 respondents 107 respondents answered yes which is the highest.

Q2. Are you aware about Menstruation Benefit Bill 2017?
109 responses:

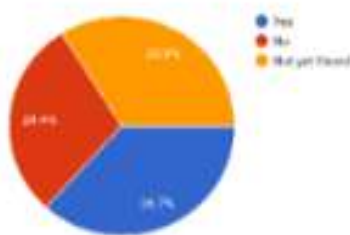


Chart 4

Majority of respondents said yes that they are aware about the Menstruation Benefit Bill 2017 of Parliament.

Q3. Do you think that Menstrual leaves are necessary for the well being of women employees?
109 responses:

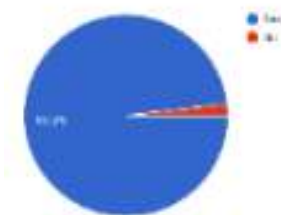


Chart 5

Majority of respondents responded that yes menstrual leaves are necessary for the well being of women employees.

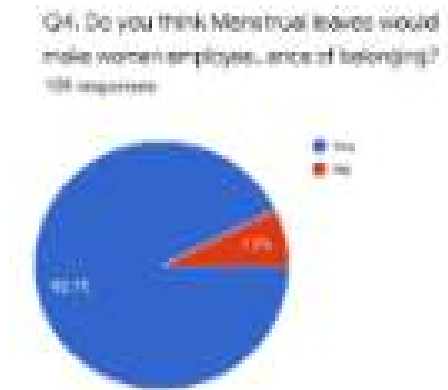


Chart 6

Majority of people who were interviewed said yes that menstrual leaves policy will make women employees more loyal and increase sense of belonging.

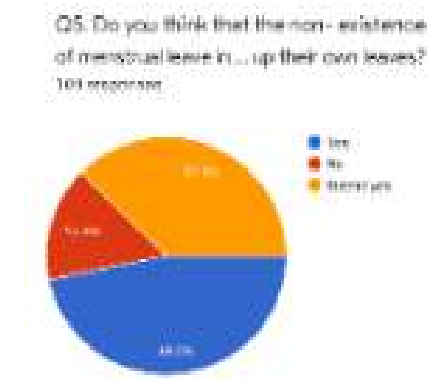


Chart 7

Out of 109 respondents 51 (46.8%) respondents said yes to the fact that nonexistence of menstrual leaves leads female employees using up their own leaves.

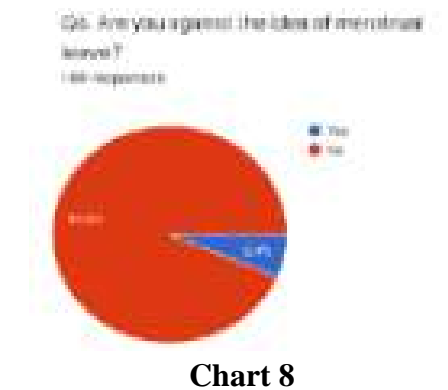


Chart 8

Majority of people with the highest percentage of 93.6% are in the favour of acceptance of menstrual leave policy.

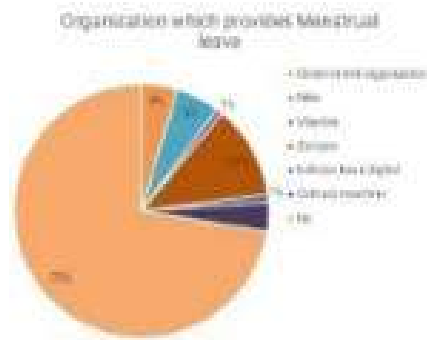


Chart 9

Majority of people are not aware about organizations which in current scenario provide menstrual leave.

Q8. Will this policy create discrimination against women's for job opportunities?
109 responses

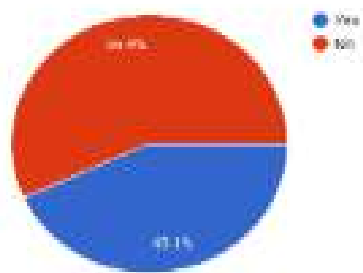


Chart 10

Majority of respondents with 56.9% answered that the policy would not create discrimination for job opportunities.

Q9. Do you think providing Menstrual Leave will increase L. of women employees?
109 responses

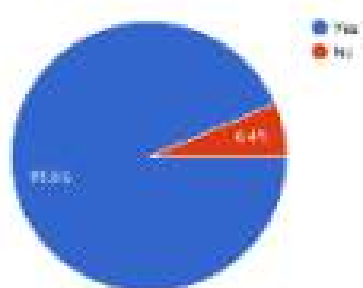


Chart 11

Majority of people with 93.6% agree that the implications of menstrual leave policy would increase the productivity of women employees.

HYPOTHESIS TESTING

As per the above data collection 98% of the respondents feel there should be a paid menstrual leave hence, we reject H_{01} that says, "There is no significant need for paid menstrual leaves in the organization" and accept H_{11} .

As per the data collection 95% respondents feel that the menstrual leaves will enhance the productivity hence reject H_{02} and accept H_{12} .

FINDINGS

- Menstrual leave will motivate women's and help them become more efficient.
- Government intervention in formation of policy and its implications is necessary.
- The acceptance of menstrual leave policy among people is high.
- Awareness needs to be created regarding such policy by the organization.
- Providing paid menstrual leave is necessary
- It is seen by some as a criticism of women's work efficiency or as sexism.
- Women's must be given freedom of choice to choose.

CONCLUSION

Menstrual leave gives women's an accessibility to use the leaves when they are on their menstruation. It's for the betterment of women's health. Time for rest during menstruation is a necessity. This leave is a problem-solving concern faced by female employees. Providing menstrual leave will motivate women's and help them in becoming more efficient, productive, increasing performance. This also leads to job satisfaction. It makes difference in sort of working environment and healthy lifestyle. If Organization provide menstrual leave, it will also be beneficial for the organization as it will create sense of belonging among employees and will show organizations concern towards employees. Providing Menstrual Leave is necessity. Trust must be there and not much paperwork or doctors' certificate must not be given importance to. Providing better hygiene conditions at workplace is important. Taking consideration of every employee will lead to a better working environment making a place to work in.

Awareness must be created regarding provision of such policies and implementation of it. It must not be too rigid for employees to appear for the leave. The HR department of organization must efficiency set up rules and regulations regarding the policy which must not be too rigid for the employees to follow.

RECOMMENDATIONS

- Government enacting policies is a must
- Better facilities must be provided to women at workplace by the organization.
- Setting proper and efficient policy within the organization
- Maintaining and having records of employees' health issues must be taken in consideration
- In organization where leave policy is practiced documents and doctor's certificate must not be given much importance. Rather trust must be shown on employees.
- Women's can be provided the option of work from home or flexible working hours.

- Menstrual leave can be compensated by increasing the working hours during other weeks.

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A study on investment in various avenues and its corresponding risks in mixed age groups

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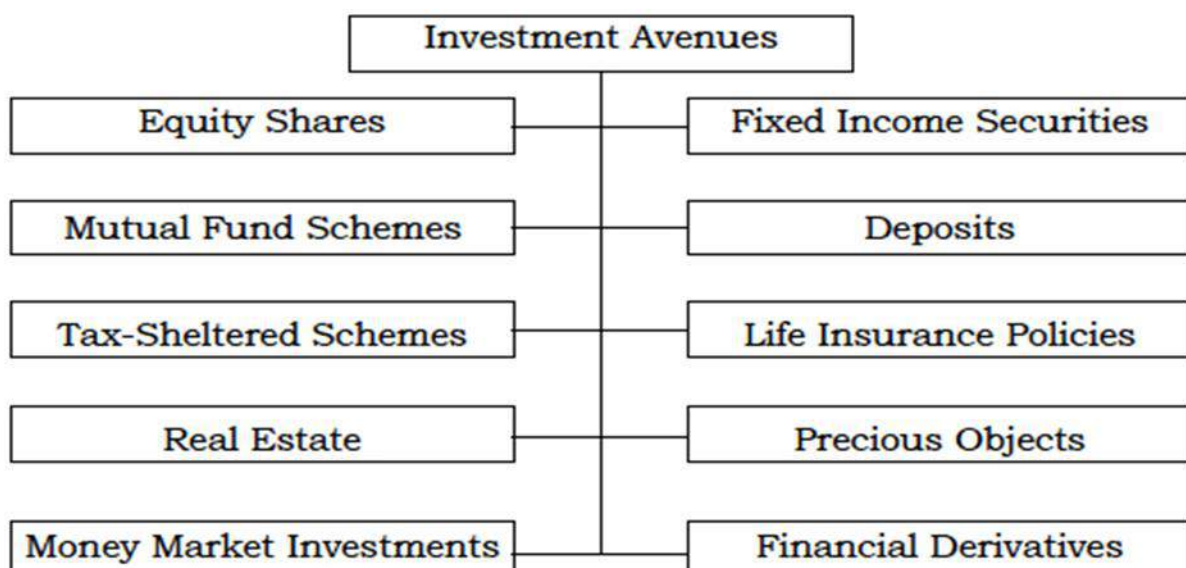
Guide: Chitra More

ABSTRACT

Investment is an activity as well as a process emerged in people who have habits of savings with the anticipation of positive rate of return in near future. A variety of investment options are available such as bank, Gold, Real estate, post services, mutual funds & so on. Investors are investing their money with the different objectives such as profit, security, appreciation, Income stability etc. With such wide spectrum of investment avenues, the risk factor arises. With the fluctuation in the economy people's audacity to take risks changes according to the age and responsibilities. The study is based on the questionnaire and the personal interview of 50 people with different age groups and their willingness to invest and taking risk in the avenues. The data has been analyzed using pie charts, bar graphs, percentages and statistical charts. The researcher has analyzed that young generation has shown keen interest in new investment patterns, exploration in investment instruments, and high probability of accepting the risk factor in the investment compared to elder crowd. The awareness and trust have been highly varied in the age groups. Respondents are aware about the investment avenues available in India except people above 50 years of age and neither has shown any interest to know it.

Keywords: Investments, profit, saving, peer groups, risk, Avenues.

INTRODUCTION



The developing countries like India face the enormous task of finding sufficient capital in their development efforts. Most of these countries find it difficult to get out of the vicious circle of poverty of low income, low saving, low investment, low employment etc. With high capital output ratio, India needs very high rates of investments to make leap forward in her efforts of attaining high levels of growth. Since the beginning of planning, the emphasis was on investment as the primary instruments of economic growth and increase in national income. In order to have production as per target, investment was considered the crucial determinant and capital formation had to be supported by appropriate volume of saving. Investment is the sacrifice of certain present value for the uncertain future reward. Investments are always interesting, challenging and rewarding. Generally, where there is a high risk, more rate of return is assured. Risk and reward go together. The major features of an investment are safety of principal amount, liquidity, income stability, appreciation and easy transferability. A variety of investment avenues are available such as shares, bank, companies, gold and silver, real estate, life insurance, postal savings and so on. All the investors invest their surplus money in the above-mentioned avenues based on their risk-taking attitude. Research observed that this risk taking attitude has been changing with every age groups. Every type of risk has been affecting people in various age sectors. Certain types of investment have been identified in the investment avenues.

Market risk: The risk of investments declining in value because of economic developments or other events that affect the entire market. The main types of market risk are equity risk, interest rate risk and currency risk.

- **Equity risk** – applies to an investment in shares. The market price of shares varies all the time depending on demand and supply. Equity risk is the risk of loss because of a drop in the market price of shares.
- **Interest rate risk** – applies to debt investments such as bonds. It is the risk of losing money because of a change in the interest rate. For example, if the interest rate goes up, the market value of bonds will drop.
- **Currency risk** – applies when you own foreign investments. It is the risk of losing money because of a movement in the exchange rate. For example, if the U.S. dollar becomes less valuable relative to the Canadian dollar, your U.S. stocks will be worth less in Canadian dollars

Liquidity risk: The risk of being unable to sell your investment at a fair price and get your money out when you want to. To sell the investment, you may need to accept a lower price. In some cases, such as exempt market investments, it may not be possible to sell the investment at all

Concentration risk: The risk of loss because your money is concentrated in 1 investment or type of investment. When you diversify your investments, you spread the risk over different types of investments, industries, and geographic locations

Credit risk: The risk that the government entity or company that issued the bond will run into financial difficulties and won't be able to pay the interest or repay the principal at maturity.

Credit risk applies to debt investments such as bonds. You can evaluate credit risk by looking at the credit rating of the bond.

Reinvestment risk: The risk of loss from reinvesting principal or income at a lower interest rate. Suppose you buy a bond paying 5%. Reinvestment risk will affect you if interest rates drop and you have to reinvest the regular interest payments at 4%. Reinvestment risk will also apply if the bond matures, and you have to reinvest the principal at less than 5%. Reinvestment risk will not apply if you intend to spend the regular interest payments or the principal at maturity.

Inflation risk: The risk of a loss in your purchasing power because the value of your investments does not keep up with inflation. Inflation erodes the purchasing power of money over time – the same amount of money will buy fewer goods and services. Inflation risk is particularly relevant if you own cash or debt investments like bonds. Shares offer some protection against inflation because most companies can increase the prices they charge to their customers. share prices should therefore rise in line with inflation.

Foreign investing risk: The risk of loss when investing in foreign countries. When you buy foreign investments, for example, the shares of companies in emerging markets, you face risks that do not exist in Canada, for example, the risk of nationalization.

Investment Option Available: In India there are lot many Investment avenues are available. The following figure is pretty self-explanatory regarding investment options. Investments are broadly classified into five categories i.e., Equity, Debt, Real Estate, Commodities and Miscellaneous.

OBJECTIVES

1. To study the investment design of investors
2. To study the avenues of investments
3. To study the investment decisions in age groups
4. To study the reason affecting the choice of investors
5. To know the factors influencing investment behaviour of people

REVIEW OF LITERATURE

Jalpa Thakkar, Sheenam Gogia & Vatsala Manjunathan (2013) has conducted an empirical study on gold investment rage among the professionals with a comparative analysis of e-Gold, gold ETF and gold funds with an objective to study the most preferred metal for investment from gold, silver and platinum, to know the attitude towards investment in gold and other gold options and also to know the information sources, risk associated and returns in making gold investment. The study was conducted with a sample of 100 investors through online questionnaire. The study concluded that physical gold is most preferred investment by the investors, market information has the first source of information for investment in gold. It was also found that family members and friend play an important role in investment decision and

Risk and return perspective of gold ETF is considered as moderate in the ratings as compared to E-Gold and Gold funds.

The Institute of company secretaries of India in its Investor Education series III entitled, “Investment Decision making by a Lay Investor” (1991) explained the preconditions for investment decision making, analysis and evaluating risks. SEBI (1998) survey revealed that Risk appetite, investment objective of the investor, income of the investor, funds available for investment, greatly influences the behavior of the investor in corporate securities at various levels. According to Brahma Bhatt, Raghu & Malekar of Aruna Manharlal Shah Institute of Management and Research, Mumbai University (2012), “the awareness of investment knowledge, investment opportunities is quite high. Financial portals, financial news channels, financial newspapers help these people; various markets related T.V. shows, Expert talks, magazines. For Indian public money is everything. Therefore, they are more sensitive about their money. They will think hundred times before investing in any market and will expect more than that. They feel that they are having enough money, time, resources and opportunities with them for investing. Though they are having sound knowledge of financial market and economic condition of India, yet they lack the edge above the others as this field is very unpredictable and vast hence, they must be backed up by a financial planner.

Manish Mittal and Vyas (2008) Investors have certain cognitive and emotional weaknesses which come in the way of their investment decisions. Over the past few years, behavioural finance researchers have scientifically shown that investors do not always act rationally. They have behavioural biases that lead to systematic errors in the way they process information for investment decision. Many researchers have tried to classify the investors on the basis of their relative risk-taking capacity and the type of investment they make. Empirical evidence also suggests that factors such as age, income, education and marital status affect an individual’s investment decision. This paper classifies Indian investors into different personality types and explores the relationship between various demographic factors and the investment personality exhibited by the investors.

Investment is the sacrifice of certain present value for the uncertain future reward. It entails arriving at numerous decisions such as type, mix, amount, timing, grade etc. of investment and disinvestments. Further such decisions making has not only to be continuous but rational too. Instead of keeping the savings idle you may like to use savings in order to get return on it in the future, which is known as ‘investment’. There are various investment avenues such as Equity, Bonds, Insurance, and Bank Deposit etc.

RESEARCH METHODOLOGY

A research design is basic plan, which guide the researcher in the collection and the analysis of data required for practicing the research. Research is limited to Mumbai city, and having both primary and secondary data.

Secondary data through books, magazines, website and certain research performed before.

Sample Size:

The sample size is 50 customers of different insurance companies, from various part of the Mumbai city. Respondents were the customers from different industries like real estates, insurance, financial services.

Limitation:

Due to time constraints and social distancing the sample size is relatively small as it is conducted only in Mumbai city. It is difficult to know if all respondents gave accurate information and not feasible option to travel around the state.

FINDINGS

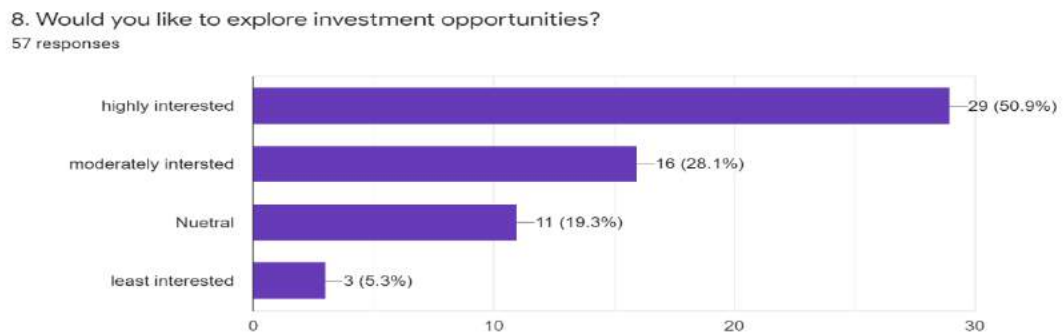


Chart 1: Would you like to explore investment opportunities?

It has been observed that 50.9% of people are highly interested in exploring new opportunities in the market. 3 people who are least interested in exploring new opportunities belong to 45+ age groups with 5.3%. 16 people out of sample size are interested to explore but won't make any possibilities to invest in the opportunities. And rest of the population in sample size are neutral about decision.

Perception	Percentage	No. of respondent
Highly interested	50.9	29
Moderately interested	28.1	16
Neutral	19.3	11
Least interested	5.3	3

For how long you're looking to invest your money?
57 responses

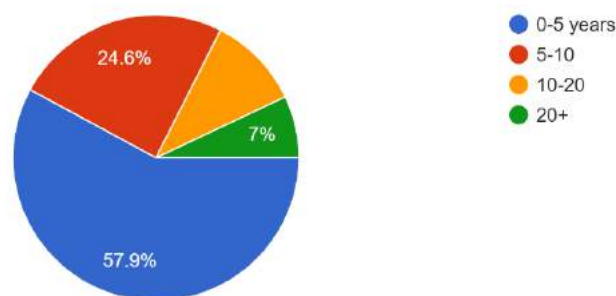


Chart 2: For how long you are looking to invest your money?

The pie chart above has mentioned that 57.9% of the people are willing to go for short term investment i.e., from 0-5 years and only 7 percentage of the sample size are willing to invest in the long-term scenarios rest 7% of the people are interested to invest for 5-10 years and 10.5% of the people have set mindset to invest for more than 10 years but less than 20 years.

Years	No. of respondents	Percentage
0-5	33	57.9
5-10	14	24.6
10-20	6	10.5
20+	4	7

SUGGESTIONS

1. If the investors want high returns, they take high risk but while they take these kinds of risk, they should also do proper research before investing and taking risk.
2. Before taking the risks, they can take advice from expert.
3. The funds can be managed with various strategies' the strategy should be told to the investor beforehand.
4. The strategy to overcome loss is through risk management the investors should know how to manage the risk.
5. There are various options in avenues through which they can Gain profits and have tax benefits.
6. People with higher age should not have prejudice mindset towards the market.
7. It is possible to diversify your investment to overcome the precious losses.
8. Better analysis tools should be uses to make better predictions.
9. It is recommended that investors decisions should be based on their broker advice.
10. Risk and return should be evaluated before making and investment decisions.
11. People with higher age group should be open ended about new schemes and investments.
12. Those investors who want avoid risk should invest in treasury notes or high-rated municipal bonds and debentures and so on.

CONCLUSION

The investment decision is driven by the economic indicators such as GDP, inflation rate, unemployment rate, NNP, GNP, government policies etc. The study shows how different factors and instruments have different risk, return and tax considerations while talking investment decision and are of diverse nature and significant decision making in different age

groups. It is very difficult to conclude how a particular market instrument is doing and how they will perform the future and the prejudice that elderly people have towards these instruments, but still the study concludes to an extent that the particular instrument or product like equity or government security has performed well in the past and supported with strong demands will perform well in the future.

Indian economy has grown from a position of 2 to 3% of growth rate to a position of 8.5% at present. The economy has done immensely well and so is the performance of the equity market, which has given a high return to the investors. The study of the random sample of fifty prospective with mixed age groups which limited to more accurate results, however the fact of prejudice towards certain instruments has been significantly shown in high age people. The population which are younger of the investing community is that the market will give high returns for the securities that are fundamentally strong.

The study also drawn an important conclusion from the study that the investors are keen to invest in short term and less risk products especially people with 45+ years of age. The risk appetite of 20-40 years of age group is significantly high compared with other groups. Investors are moderately aware about the factor affecting their short term as well as long term, investment plans and they do take advice from experts and self-analysis. The intensive study will somehow help investors and people with ignorant prejudices in deciding the correct investment for their savings.

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A Study on Consumer perception towards post office saving scheme with respective to urban area

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ABSTRACT

The Post Office savings bank is the oldest and the largest banking system in India. Savings plays a vital role for the growth and improvement of the economy of the country. In India, Post Office savings scheme provides a secure, risk free and attractive investment option for the small investors as well as for the consumer. Post office savings schemes is a tool where they can save their valuable earning. Post offices offer various saving schemes like Savings Bank Account, National Savings Certificate Account, Post Office Monthly Income Scheme, Senior Citizen Scheme, Recurring Deposit, Sukanya Samridhi Account, Kisan Vikas Patra and so on.

Keywords: *Post office, Customers Perception, Satisfaction, Saving Schemes.*

INTRODUCTION

Indian Postal Service-

Department of Posts



Type	Agency of the <u>Government of India</u>
Founded	1764
Headquarters	New Delhi, India
Key people	Radhika Doraiswamy, <u>Director General</u>
Industry	Postal system
Employees	520,191 (As of 2007)
Website	http://www.indiapost.gov.in/

The **Department of Posts** (Hindi: भारतीय डाक विभाग) functioning under the brand name **India Post** (Hindi: भारतीय डाक), is a government operated postal system in India; it is generally referred to within India as "the post office".

The post office saving schemes basically started for rural area development motive, now days the peoples are lagging to save in post office because of other saving banks & more schemes are available in our country with high interest to pay the people, so this study analysis about customers perception to saving in post office. Perception means different type of people think differently in the same situation, this study reveals about the customer's perceptions, expectations, thoughts, behavior and their activities towards post office saving scheme.

Post Office Saving is the best form of savings schemes which provide something lesser risks of suffering losses. Therefore, wherever you go the same schemes are available through India, so wherever the customer's go which makes easy adjust to new conditions. They are widely accepted among the different sections of the Indian society and among the different age groups. The post office time deposits scheme falls under the category of fixed deposits and available at all the post offices throughout India. The investors are not entitled to receive any amount towards interests on a monthly basis but receive a lump sum amount as interest when the scheme matures. The interest rate in case of these schemes is directly proportional to the tenure of the scheme.

OBJECTIVES

1. To understand the perception of consumers in the post office saving schemes
2. To study about consumer expectation from the post office schemes
3. The problems faced by the customers of post office saving schemes
4. To study the satisfaction level of customers in post office scheme

NEED OF THE STUDY

To know the customer perception in the post office saving scheme, it contains different type of customer's satisfaction level, their expectations and interest. What kind of problems customers facing in post office? To know the customers age, annual income, gender, and scheme type, this is the need to this study.

LIMITATIONS OF THE STUDY

- I will be only selecting some regions like Antophill, Sewri, Dadar. Hence it may not be applicable in other parts of the regions like Navi Mumbai.
- People didn't show the interest to fill the questionnaire.
- Getting survey from people is not easy.

REVIEW OF LITERATURE

- 1) Mohinder Singh (June 2018) in his paper titled "Investor's perception towards post office saving schemes A case study of Himachal Pradesh" discusses about the

investor's behavior towards the savings schemes. The study was conducted from a sample of 140 respondents mainly from three districts of Himachal Pradesh. The study concludes by saying that common people in hill areas mainly mobilize their savings in post office saving schemes than formal banking forms.

- 2) Miss Jyothi Mahadeo Patil in her paper entitled "A study of savings and investment pattern of rural inhabitants relating to postal and banking schemes" (June 2017) focuses to find out the rural people awareness regarding the saving and investments. The paper also points out the problems faced by the rural inhabitants at the time of making savings in post office saving schemes.
- 3) The paper entitled Rural investors attitude towards post office savings scheme Kodavasal Taluk" was carried out by Dr N. R Vembu and J Abhinaya. The study is conducted to determine the factors that motivate the investors to prefer post office saving schemes. The study concludes that mainly investment in post office is made by rural females. The biggest benefit of investing in postal schemes is tax relief.
- 4) Sukharanjan Debnath in his paper titled "A study on post office savings of middle-class people of West Tripura District" focuses on finding out how the middle class mobilize their saving in different post office schemes. Data is collected through structured questionnaire. The study concludes by saying that government should take massive awareness program and proper training to be provided to post office agents to attract more investors. it also suggests that post office should be provided with more facilities and services in future.
- 5) M. Rajeswari Manu, 2017 the purpose of the study is to understand the recurring deposit scheme of the post office and the allied services along with the customer satisfaction level towards recurring deposits. The researcher suggested that the post office can develop a mobile app for easy payment transactions for all the recurring deposit account holders so that the post offices to get more youth customers.

Post Office Savings Bank

Post office offers following Nine savings schemes:

- 1) **Saving Account Scheme:** It is a basic saving instrument to the people with multiple deposit and withdrawal facilities.
- 2) **Time (Term) Deposit Scheme:** These are fixed deposit schemes starting with as low as Rs. 200. The periods available for time deposits are 1, 2, 3 and 5 years.
- 3) **Recurring Deposit Scheme:** In this scheme a person can start saving with Rs. 10 per month, premature closure of accounts is permissible with penalty after completion of three years.
- 4) **Monthly Income Scheme:** This is a lump sum deposit scheme targeting retired persons who expect monthly income flow. The minimum deposit is Rs. 1,000 and the maximum is Rs. 300,000 with a lock in period of six years.
- 5) **National Savings Certificate:** This is tax-exempt certificate with a minimum contribution of Rs. 100 and no maximum limit. Interest is compounded six monthly and payable at maturity

- 6) **Public Provident Scheme:** This is a fifteen-year scheme with a minimum deposit of Rs. 100 and a maximum annual deposit of Rs. 70,000. Withdrawals are possible after the fifth year and a loan facility (up to 40 %) is available after completion of one year.
- 7) **Senior Citizens Savings Scheme:** This scheme is designed for Government employees aged above 60 years or who is 55 years and has taken Voluntary Retirement Scheme.
- 8) **Sukanya Samriddhi Account:** Rate of interest 7.6% per annum which is calculated on yearly basis. Minimum INR. 250/- and Maximum INR. 1,50,000/- in a financial year. Deposits can be made in lump-sum. No limit on number of deposits either in month or in a Financial year. Only one account can be opened in India either in post office or in any bank in the name of a girl child.
- 9) **Kisan Vikas Patra (KVP):** Any number of accounts can be opened under the scheme. The deposit shall mature on the maturity period prescribed by the Ministry of Finance from the time as applicable on the date of deposit. Amount invested gets doubled in 124 months (10 years & 4 months).

RESEARCH METHODOLOGY AND SOURCES OF DATA

Sample Size:

No. of respondent's are 68

Sources of data:

The study is based on both primary and secondary data

- **Primary Data:** The primary data were collected through structured questionnaire
- **Secondary Data:** The secondary data was collected from websites.

1. DATA ANALYSIS AND INTERPRETATION

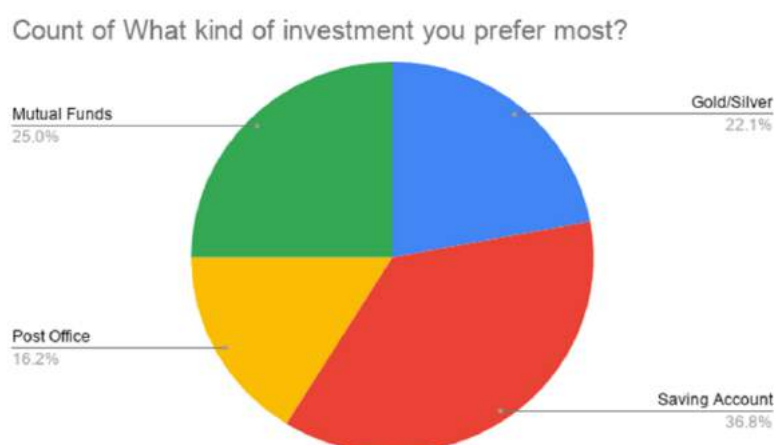


Chart 1: What kind of investment you prefer most

From the above pie chart, it shows that majority 36.8% of them invest their money in saving account and the rest of them invest in Gold/Silver i.e., 22.1%. 16.2% of customer invest in post office and the remaining 25% invest in Mutual Funds.



Chart 2: For how long you are looking to invest your money in post office

From the above pie chart, it shows that majority of them i.e., 58.8% are looking to invest their money for 0-5 years. 30.9% are showing their interest to invest between 5-10 years. 7.4% of the customer are looking for 10-15 years and the last that is between 15-20 year 2.9% of the customer are looking to invest in post office.

FINDINGS

- According to this research findings, most of the respondent's opinions that purpose to save the amount is for their future needs.
- Post office department has provided various postal schemes to the people so that all people can fulfil the financial needs of present, future, short term, mid-term and long-term needs.
- Postal customers have a faith and positive approach towards post office schemes.
- From the findings, it's found that customer is giving more attention to the safety & securities and preferring their money to put in post office rather than banking sectors.

SUGGESTIONS

- In order to increase the attractive saving schemes, post office can introduce promotion schemes such as advertising, in radio and TV channels.
- More awareness must be created among the customer about all the scheme as respondents are not aware about the schemes in post office. So, post office must take necessary steps to give more awareness to public.

- According, to the research interest rate of some schemes is found very less, so steps should be taken to increase the interest rate of some schemes as compared to others private sectors.
- Like banks, or money lenders, post office doesn't offer loan facility to common needy person. So, post office should implement loans facilities at minimum rate of interest.

CONCLUSION

This study was taken up with the main idea of studying the customer perceptions in the post office saving schemes, and also gets to know whether the customer is satisfied or not in their saving account. Most of the customer are influenced to invest in post office deposit schemes for the wealth creation and for the future needs purpose only. Nowadays, people are interested to invest their money only in banks as compared to post office deposits schemes which have to lead to a reduction of deposit in post office. The major problems faced by the respondents while depositing money in post office deposits schemes were low return. Through this study I gain more practical knowledge which makes betterment for my future and career

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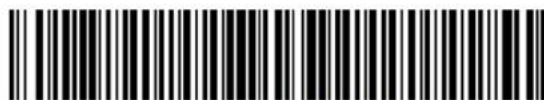
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