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Data for the Commons: Transforming The Canadian Traffic Problem Through An Effective Integrated Data Framework

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ABSTRACT

Traffic congestion is major problem in metro cities. It not only creates a problem for environment but also decreases the efficiency of human being. It mostly wastage of time which in turn leads to stress among individual. Hence it affects the masses across the country. Most of us spend hours getting stuck in traffic. The traffic congestion leads to delay at the same time increases fuel consumption and greenhouse gas emissions. Hence the research attempts to study the traffic problem in Canada. It also tries to provide solution through an effective integrated data frame work

Keywords: *Traffic congestion, Canada, integrated data frame work*

Introduction

The study, conducted by Inrix, has ranked Canada the 15th most traffic congested city across the globe in 2017. According to Inrix, Canadians are spending an average of 27 hours stuck in traffic (Inrix, 2018). A Canadian Automobile Association-commissioned study released in 2017 estimated the country's worst bottlenecks result in 11.5 million hours' worth of delays per year (The Star, 2018). Motorists burn an extra 287 million litres of fuel per year which sends an additional 58 million kg of CO₂ pollution into the atmosphere.



As per the Dutch Navigation company TomTom, it is estimated that the country is wasting 79 hours bumper to bumper in traffic due to congestion (Hiscock, 2019).

The traffic and congestion problem, therefore, creates a problem both from an environment, productivity and efficiency point of view affecting masses across the country.

Background & Issue



Road congestion is the result of multidimensional choices like population density, where people live and work, their work schedules, the road network configuration and the presence of alternative transportation modes. There are many measures of road congestion. Based on a table produced by Weisbrod et al. (2001) there are four families of congestion measures: time-related measures, volume measures, delay measures and level of service (Allie, 2016)

Congestion increases the time it takes to get from point A to B, what we commonly refer to as "delays." The lost time impacts both quality of life for individuals and the overall economy. Motorists and passengers give up productive work hours and precious personal and family time. When trucks are stuck in traffic, the goods they are moving to become more costly to businesses and consumers. The lost productivity from delayed passenger trips and freight deliveries harms regional and national economic competitiveness.

Along with delays, congestion increases fuel consumption and greenhouse gas emissions. Vehicles idling in traffic consume far more fuel than they otherwise would. Moreover, by extension, vehicles emit more greenhouse gases in congested conditions (CAA, 2017). Broadly, there are two types of congestion: recurring and non-recurring congestion (Bertini, 2005). Recurring congestion (henceforth referred to only as congestion), refers to traffic congestion, which is a result of normal demand fluctuations relative to road supply, which slow road performance.

In contrast, non-recurring congestion stems from random occurrences, such as collisions, poor weather, or special events (Matthias Sweet, 2015). Few of the critical themes for congestion are highlighted as follows:

- **Bottlenecks:** The FHWA "Traffic Congestion Reliability" reports define congestion as "an excess of vehicles on a roadway at a particular time resulting in slower speeds - sometimes much slower - than usual or free flow speeds (FHA, 2005). Traffic bottlenecks in Canada's cities can increase commute times by 50%, and three of Canada's bottlenecks are among the worst in North America – rivalling those in New York and LA (CAA, 2018).
- **Environment:** A study by Dr. Jean Andrey and Daniel Unrau found that traffic collisions increase by around 50 percent during snow and rain. From rainy or foggy weather to the extreme snowstorm that stops drivers in their tracks, the weather has an uncontrollable effect on not just traffic but road conditions as well. Even gentle rain can make an impact if all drivers slow down together (Will, 2015)
- **Traffic Management:** Traffic management systems (TMS) are technologies designed to improve traffic flow and safety, reducing congestion. TMS has been around for a long time but may not have been adopted to their full potential in Canada. Only 50% of traffic signals in North America have remote connectivity, creating a barrier to store, retrieve and utilize data to understand trends (CAA, 2018). Ineffective management of traffic and planning leads to high levels of congestion.
- **Population Growth:** 82% of Canadians reside in urban areas of more than 90,000 residents, and this share is expected to increase to 88% by 2050 (UN, 2014). Canada's urban growth is mainly concentrated in its largest cities, with over one-third of all Canadians, 12.5 million total, living in Toronto, Montreal and

Vancouver (Statistics Canada, 2016). Inconsistent public infrastructure investment over extended periods of double-digit population growth rates in these

Recommendation

The tragedy of the commons refers to a shared resource system where individual users act independently according to their self-interest and behave in contrary to the common good. The transport system is a shared resource that is used by the larger collective of the population in a congestive manner presently. Through big data, it is possible to understand population travel behaviour and trends and influence it effectively to help reduce traffic and congestion. The application of data could be made utilizing the following integrated framework:

Omni-modal: By utilizing GPS location or travel card information, analysts can track route and travel mode usage frequency. Tracking of frequency can then help offer commuters personalized travel recommendation. By tracking habits and frequency, the Traffic Management System is able to provide discounts and incentives to regulate travel and in returnable to promote environment friendly or congestion reduction travel, as see in Hong Kong with usage of smartcard Octopus data (Xerox, 2015) The Omni-modal view helps influence the commuter to make decisions with the collective interest in mind.

Commute Scheduling: Through analysis of route data trends, especially of bottlenecks, Traffic Systems could provide commuters with preferred schedule timings and speeds to follow to ensure they can start and end at a time and reach effectively and avoid congestion. Being able to predict and inform commuters to leave early or later would help influence collective good for travellers of the same route, instead of making them compete with each other to reach quicker. It would be hard for spontaneous travellers to do, however once though do choose a route and if its already booked out, they could then use lesser occupied routes to ensure collective good of all commuters.

Congestion Free Lanes: To promote carpoolers and public transport users, there could be Congestion Free Lanes that support these commuters, and which costs a variable amount based on the traffic to other commuters. This helps commuters pick different routes to distribute traffic across channels, and it helps make sure that the level of congestion is controlled to those that are willing to pay the surcharge. This would help reduce the traffic wait time and fuel wastage as well. Utilization of these models, for example, similarly through the London Congestion Charge showcased a traffic reduction of up to 20-30% (Coyne, 2011). Congestion Surcharge could then be rotated back to Public Trusts to ensure the funds collected are used for the benefit of the community.

Smart Commuter Recognition: Big Data analytics could be used to acknowledge smart commuter behaviour and promote best practices. This would help motivate others and uplift congestion-free travel decisions. Utilizing data, the distancescovered using public transit, carpooling and following congestion free scheduling or lanes can be rewarded through free parking, transit discounts, faster lanes or other benefits that would further motivate individuals to be a smart commuter and work towards the collective good of reducing congestion.

AI Logic Maps: Present map interfaces only provide route options but logic responses. Through the usage of data patterns and trends. Approximate emission, fuel and time impacts can be evaluated and communicated to commuters. This in return could help them decide if choosing a route is the best decision



for themselves, community and the environment. Making commuters more aware of the impacts of their behaviour would make them more compliant to re-alignment and re-routing in return which helps impact all commuters and stakeholders positively.

Reflection

The Traffic Congestion problem in Canada is one that has prevailed for quite a few years, however, through the rise of big data analytics and application, there is potential to be able to work through key problems. The key theme's highlighted are bottlenecks, environmental conditions, traffic management systems and population growth which are fundamental causes and themes for congestion in Canada. Apart from weather conditions, most other causes of congestion are commuter based. Hence, through the analyzing and influencing of commuter behaviour could potentially help improve the commuter experience as they are better distributed and aligned based on rotation and scheduling to better reach a destination collectively than individually.

The solutions recommended focuses on the collective good and usage of data as a city and community. The idea of being re-routed or realigned to ensure that everyone reaches on time compared to everyone taking the same route to save time, which results in congestion is the need of the hour. Through Omi-modal channels travel patterns could be tracked and predicted. Commute schedule can help pre-plan route traffic loads to help balance or book them prior, congestion-free lanes to promote greener ways of travel and add a surcharge, smart commuter recognition to promote a wise commuter lifestyle through rewards and advantages and data usage standardization are vital ways to help integrate data for useful application. Artificial Intelligence driven road heat maps that define route or commute logic to help create a rationale for taking route and time decisions would help make the commuter more away of the decision of the commuter, helping the commuter make smarter and greener decisions.

Through the efficient application of Big Data, therefore, could be represented in the chart mentioned in Appendix 1.0.

Conclusion

Hence as we move to a world of smarter cities, it is essential for us to help further realign commuters to think more as a collective and not as an individual. In Appendix Figure 2.0, it can be observed how data channels can be streamlined through standardized mediums, making it more user-friendly and real-time to consume. And through the integrated data framework, the process would collect, analyze, redistribute, reward, plan and rationalize for commuters to take the smart decision instead of the convenient one.

As we move as a quickly growing population in Canada, it is essential for us to transform the way data is used and help create more awareness, incentive and efficiency within commuter lifestyles to help get the best out of aggregate data to help positively impact the environment, community and help reduce congestion.

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Appendix

Figure 1.0: Effective Integrated Data Framework

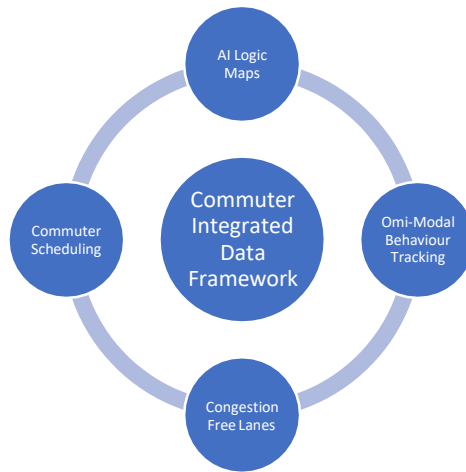
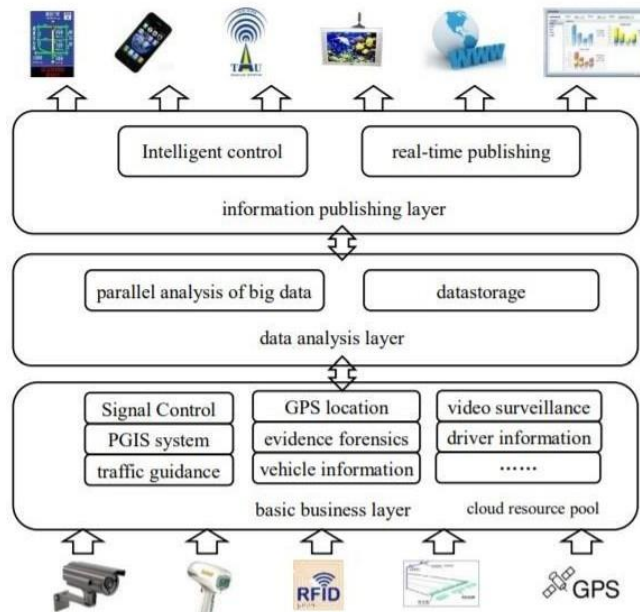


Figure 2.0: Standardized Big Data Usage Platform & Channels



Source & Adapted From: (Zeng, 2015)

A STUDY ON FINANCIAL EFFECTIVENESS AND IMPACT OF MICROFINANCE ON INFORMAL SECTOR IN MUMBAI WEST

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ABSTRACT

This paper identifies and looks into the factors that impact the micro finance in informal sector in Mumbai. Finance is the lifeblood of any organization but to a commoner to start any business he requires finance. A person who does not have standard job is deprived of loans from banking sector then he ends up, borrowing from money lenders. Informal sector consists of the self-employed., it is referred to as self-employment as petty traders who do not hire any workers and those in organized trade/business category who do not hire any workers. An informal economy is the part of any economy that is neither taxed nor monitored by any form of the government. This paper identified and looked into the factors that attract informal sector towards Microfinance. In collecting primary data, survey technique used as data collection tool and Convenience sampling procedure used for selecting 100 respondents of this study. Data analysis performed using Percentage and Chi-square. The study is focused on awareness and Microfinance product used by informal sector

Keywords: *Microfinance, Awareness, Informal sector.*

Introduction

“Financial services facilitate to sleek money flows, build assets, invest profitably, and, significantly, manage risks. Increasing the reach of economic services that square measure cheap and meet the various wants of poor ladies and men will contribute considerably to economic development and overall quality of life, key objectives of practitioners and policy manufacturers alike.” — Maria Otero, former CEO, Accion International

The concept of micro finance is the brainchild of Dr Muhammad Yunus of Chittagong University, were the women was deprived of reasonable income in spite of arduous day's work in Bangladesh. He reasoned that if these ladies might work for themselves rather than operating for others, they might retain abundant of the excess generated by their labours, presently enjoyed by others. In many countries across

the globe, small finance was originated from the activity of Non-Governmental Organisations (NGO's) that were assisted mostly or partially by foreign donors for his or her disposition operations. In certain countries small finance was promoted directly by state-owned banks/organisations. Micro finance refers to the supply of basic monetary services like loans, saving accounts and insurance for low-income of economical active individuals. Small finance is vital because the world's two-third of the population is secluded from the standard market. In rural areas, to reinforce their economic financial gain and to get rid of poor economic condition they involve in cottage industries for that they need a nominal amount as investment. The investment they need can't be pertained from the banks because the procedures is tedious and additionally there is a lack of formal employment, so they look towards the cash lenders, they offer the cash however with enormous interest rates. So micro finance is the need of the hour in order to uplift the economy of an individual and the economy as whole.

Literature review

Mr. Anand, Ms. Namrata (2020): The researcher's states that micro finance provided financial accessibility to poor people of Agra District to increase their total family income through different livelihood assets or capitals such as human capital, financial capital, physical capital and natural capital. It will provide a hope to the poor to ensure sustainable livelihood by improving their health, education, skills, assets and involvement in social activities and hence acknowledge them as important part of society.

Mr. Thomas Jesu Raju (2018): The researcher explained the effect of social performance on the sustainability of microfinance institutions was quantified using CERISE (Committee of Exchanges of Reflection and Information on Systems of Savings Credit) and Social Performance Indicator (SPI) tool. Financial performance of the microfinance institutions was analyzed from 6 years audited financials of the microfinance institutions (Financial years 2009- 2010 to 2014 2015), and various ratios were calculated from the audited financials and gathered information. RBI-NBFC-MFIs directions resulted in reductions in the portfolio yield, portfolio risk, personal expenses, administration and other expenses. Portfolio yield was 31.12% in the financial year 2010 2011, which reduced to 22.45% in the financial year 2013 2014. Portfolio risk was 2.11% in the financial year 2010 2011, which reduced to 0.24% in the financial year 2014 2015. Personal expense was 10.46% in the financial year 2010 2011, which reduced to 5.46% in the financial year 2014 2015. Administration and other expense were 2.95 in the year 2014 15. Even though there was reduction in the portfolio yield, after implementing RBI-NBFC-MFI directions all the NBFC-MFIs of the study were sustainable. The scores of social performances of NBFC-MFIs depict that NBFC-MFIs adopted social performance initiatives in the business operations and that there are areas for improvement.

Mr. Agarwal, Mr. Ritesh L. (2018): The researcher's states that to make micro finance work for more people, more often, in more places, MFIs need to think clearly about how their practices will bring about

the changes they seek. This may mean making fewer micro finance loans and incurring more costs to support the loans they have already made. The retail capacity is today the single most important constraint when it comes to increased outreach this does not mean that there is need more for more institutions but rather than the institutions should either be professionalized to be able to scale up their activities or leave the MF field.

Objectives

1. To find out the awareness level about Microfinance among informal sector.
2. To study the factor that influence the informal sector to prefer Microfinance over Bank finance.
3. To find out microfinance products used by informal sector.

Hypothesis of the study

Following hypothesis were frame for the purpose of study.

H1 0: There is no difference between level of awareness and Revenue.

H1 1: There is difference between level of awareness and Revenue.

H20: Amount of loan taken has no significant impact on Revenue.

H2 1: Amount of loan taken has significant impact on Revenue.

Research methodology

In this study, the data is obtained from both primary and secondary sources. The primary data is collected using questionnaire method whereas; the secondary data is collected from the newspapers, magazines, websites etc.

Sample Design: The method of Convenience sampling has been used to collect the data from the respondents.

Sample Size: The sample size is 100.

Data Analysis and Interpretation: The data is analyzed and interpreted using Microsoft Excel 2019.

Limitations of the study

1. The study is limited to Mumbai Suburban because of time constraints.
2. Sample size used for the study is small. Hence, the results cannot be taken as universal
3. Some of the respondents did not fill the questionnaire seriously.
4. The accuracy of the figures and data are subject to the respondent's view.

Data analysis and interpretation

Table: 1. Difference between level of awareness and Revenue of the informal sector

Revenue (in lacs)	Awareness		
	Yes	No	Total
10-50	15	15	30
50-100	16	5	21
Above 100	37	12	49
Total	68	32	100

Sources: Primary data

A chi-square test of independence was performed to examine the difference between level of awareness and Revenue of the informal sector. The results of the test indicate that there is difference between level of awareness and age group of the mobile user as indicated by chi square $P = 0.74 > 0.05$.

Table: 2 Amount of loan taken has significant impact on Revenue

Amount of Loan taken (in lac)	Impact on Revenue		
	Yes	No	Total
0-30	20	10	30
30-60	20	10	30
Above 60	40	0	40
Total	80	20	100

Sources: Primary data

A chi-square test of independence was performed to examine the significant relationship between Amount of loan and impact on revenue. The results of the test indicate that there is significant relationship Amount of loan and impact on revenue as indicated by chi square, $P = 0.67 > 0.05$

Findings

- Study of survey reveals that out of total 100 respondents 68% respondents are aware about microfinance and rest of 32 % respondents weren't aware about microfinance.

- 80 % of the respondents said that they use microfinance for working capital
- 70 % of the respondents prefer Microfinance institution over Banks while taking loans.

Recommendation

The study has demonstrated that Microfinance is playing an important role in improving the economic activities of urban informal traders in Mumbai, Hence the government must recognize the significant role being played by MFIs in generating economic activity and is therefore urged to capacitate MFIs by creating an enabling environment through public private partnerships.

Conclusion

It came out clearly that urban informal traders use microfinance not by choice but because of the inaccessibility of banking services since banks procedures are cumbersome and collateral. This calls for an enabling environment if sustainable urban traders' growth is to be achieved. Formal Banks are encouraged to adopt market driven innovative ways to support the growth of MFIs and urban informal traders by creating innovative products for this market. There is a growing need for micro finance as the informal urban traders or the self-employed offer a viable business opportunity and hence can contribute toward the growth of the economy.

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A STUDY OF EMPLOYEE RESILIENCE AND ORGANISATIONAL SUPPORT DURING THE COVID-19 PANDEMIC

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Dr. Karanina Fernandes , SPJIMR, Andheri West

ABSTRACT

Covid-19, a novel virus with the deadly potential to cause severe respiratory infections to the point of culminating into a pandemic disaster that has resulted in over a million fatalities globally, has altered the way we perceive the world around us. While countries and their scientists are still grappling to bring this virus under their control, organisations themselves are in the process of coming to terms with the changing dynamics of the business environment. With companies now compelled to temporarily lockdown their offices and transfer their entire mode of operations to the digital space, resilience is the key to survive and emerge unscathed. And to withstand this, an organisation must look to nurture their strongest assets - their employees. COVID-19 has broken the shackles of the perception that for employees to perform their jobs, they must accomplish it through an office setup. The onslaught of the coronavirus has merged office workspaces to people's homes and travelling to work is viewed as a choice and not a necessity. While the work from home concept has the working population nodding in agreement, the downside to it is that people are now isolated in their homes away from their workspaces and colleagues. The familiarity of social networking and employee bonding at work has now been reduced to mere glimpses of people through online meetings and video conferences. This has brought to the forefront a vital aspect, that of an employee's wellbeing. The stronger the human resource, the greater the probability to emerge through the eye of the storm a more resilient organisation.

The study put forth is designed to explore the employees' resilience during the Covid-19 crisis across varied sectors. Using the employees' resilience scale (EmpRes), the study measured the employees' capacity to perform their jobs with support facilitated by their organization during the challenging covid-19 pandemic. Primary data was collected from 170 respondents representing employees across 39 sectors located in the Mumbai region. Thus, this study aims to predict factors influencing employees Resilience at Work during the COVID-19 Pandemic.

Keywords: *COVID-19, employee, resilience, pandemic*

Introduction

COVID-19, emerged from the shores of Wuhan, China in the latter half of 2019 and in a blink of an eye had the entire world in its deathly grip. A year and a half later, this deadly virus still refuses to let go. Country after country, governments and their states, implemented practices of planned lockdowns, measured curfews and stringent curbs to try and eliminate the source of the virus if not at least to keep it at bay. But while the world is still fighting, the virus is constantly learning to adapt to the ingenious warfare tactics heaped upon it. It will be a considerable length of time before the world can turn the tide in its favour and bring the virus to its logical end in a lab. In the meantime, while attention is tuned to a macro level of sustaining economies and protecting human life, organizations, at a micro level are focusing their attention towards building, sustaining and monitoring employee resilience in a pandemic driven work environment. The Cambridge Dictionary provides two facets to the definition of resilience:

- (i) the ability to be happy, successful etc. again after something difficult or bad has happened
- (ii) the ability of a substance to return to its usual shape after being bent, stretched or pressed

The context of this definition is apt in summing up the mindset of an employee; particularly given the current scenario where work-life balance has taken centre-stage and is more significant than ever. Home isolation linked to an indefinite time period eventually gives birth to a fear of facing an uncertain future, especially where one is dependent on a fixed income to sustain their livelihood. Added to that, the temporary dissolution of social bonding and networking at the workplace has involuntarily widened the chasm between the employee and his/her workplace. Meeting together at an organization provided individual employees with a sense of belonging to a similar work culture and working towards achieving the same shared goals. The fabric of this established pattern of working together and being confined to an office space for a considerable span of hours has been ripped right down to its end. Work space and home space has been merged into one and the fine line between professional life and personal life has been blurred out.

While the notion and implementation of work from home (WEF) has laid down a new order of work guidelines that tip the scales in favour of more advantages towards sustaining a better family and social life, it has also fuelled the human mind with a fear of facing a future where nothing is predictable. This has given rise to several psychological issues in employees which has been expressed and displayed in negative behaviour such as stress, anxiety, trauma, etc. and which has been demonstrated through the work channel.

Objectives of the study

The study highlighted the following objectives:

1. To measure employee resilience across sectors during pandemic

2. To understand the role of organisation in encouraging employee resilience during the pandemic
3. To highlight the employee experience during the pandemic

Literature review

Employee resilience refers to employees' ability to manage, adapt, and even thrive in dynamic and demanding settings when they are supported and enabled by their employers. (Nguyen et al., 2016; Nilakant et al., 2014; Prayag, 2018).

In the end, this results in resilient personnel aiding firms in coping with growing flux. Given the importance of employee resilience, figuring out how to activate it has become a crucial problem. However, much previous study has concentrated on the effects of employee resilience while ignoring the variables that lead to it. (Ou et al., 2015; Cooper et al., 2019).

Al-Omar, Arafah et al (2019) in their research paper explored the perceptions of pharmacists towards organisational support and employee resilience on employee engagement in a competitive and stressful work environment. Using random sampling and a survey technique, their study concluded that organisations should look to monitor, analyse and improve their employee resilience through motivation and support mechanisms. The study also found that the level of engagement of an organisation has a direct bearing on employee productivity levels. And highly productive employees are more likely to remain with their organisations rather than quitting. The study concluded that those in supervisory positions need to set policies that foster work-life balance and focus on employee health and well-being and a holistic development.

Arokiasamy and Krishnaswamy (2021) in their research paper examined how workers' resilience and their perceptions towards organizational support influenced their decisions to either remain with their companies or quit in search of better prospects. The study showed that Perceived Organizational Support enhances motivation amongst employees and has the potential to reduce employee turnover. The study aims to find out whether the level of organisational effort affects the intentions of employee towards resiliency and turnover. Employee turnover has a strong association with an individual's capacity for resilience.

Näswall, Kuntz et al (2013) in their report used the Employee Resilience Scale (EmpRes) to validate and measure their findings that resilience is viewed as an individual characteristic, rather than something enabled by the organisation. Using primary and secondary research, the report identified 5 dimensions that would measure employee resilience, namely, 'learning orientation', 'proactive posture', 'positive outlook', 'network leveraging' and 'adaptive capacity'

Haider I, Abid M (2017) in their research paper investigated the correlational aspects of organizational support and employee resilience using organizational support as a predictor of employee resilience. The

research was undertaken to determine the role of perceived organizational support on employee resilience among employees. It also studied the extent by which an organization supported their employees in their wellbeing and growth and to what level the organization would consider and value the goals of their employees. The results showed that there is significant positive correlation between organizational support and employee resilience.

Liang, Cao (2021) in their paper aimed to study the association between employee resilience and organizational resilience. Using structural equations and bootstrapping methods, the study demonstrated that employee resilience is positively associated with organizational resilience. The research also studied the indirect effects of employee resilience on organizational resilience through problem-focused and emotion-focused coping methods and were found statistically significant. The study concluded that employee resilience boosts individual resilience which in turn results in a resilient organization.

Ojo, Fawehinmi et. al (2021) in their research paper aimed to study job, social, and personal factors which contributed to employees' resilience. Based on the research conducted, the findings suggested that resilience was significantly associated with job engagement. The study showed that the even though management concerns for employees may or may not enhance employees' resilience amid the COVID-19 pandemic, the organization could implement strategies that could boost their employees' resilience by providing them with the flexibility to work from home and spend time with their loved ones. The findings also suggest that the influence of family, friends' support results in lower stress levels for employees and in turn employees can cope and perform much better, thereby enhancing their job engagement. The study validates the importance of organizational support in providing the crucial facilities to ease employees' work load especially during uncertain situations or pandemics, Thus, the study recommends that the senior management should incorporate in their organizational procedures and strategies flexible practices like work– life balance.

Research methodology

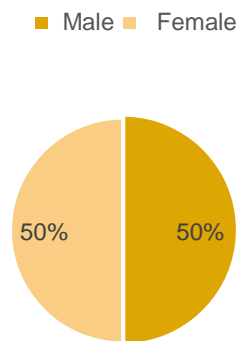
This research is an exploratory study that highlights the level of resilience among employees from various sectors. The population of this study were all workers working in various companies across 39 sectors. Data collection tools in this study includes the questionnaire was distributed to all participants through google form. The snowball technique of data collection was used to collect responses across sectors. All the data collected was then selected based on the form completion. An assumption test was conducted. Based on the results of the 1) providing questionnaires and informed consent to the research subjects through google form. 2) selecting the eligibility of the collected questionnaires. 3) perform an assumption test. 4) analysed the data using descriptive statistics. 5) draw conclusions based on the data obtained. Out of 200 responses received, 170 questionnaires were complete and were included for analysis. The variables in this study

are organizational support and employee perception. The data analysis technique used in this research is correlational analysis. Sentiment analysis and word cloud methods was used to evaluate open ended questions in the questionnaire.

Data analysis

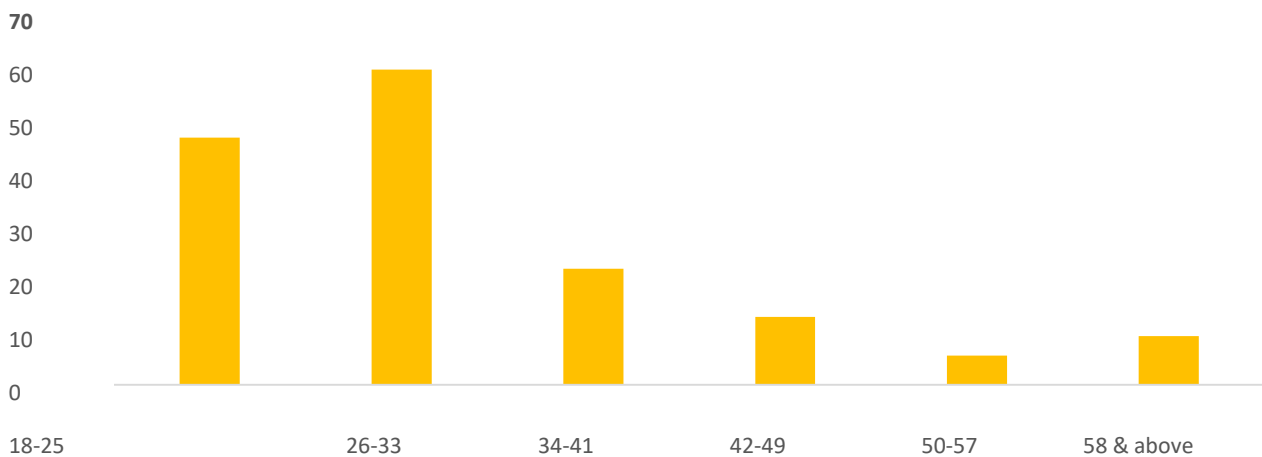
The data collected from 170 respondents was collected and analysed to understand the employee resilience and organisational support.

Fig. No. 1 Gender Data Representation



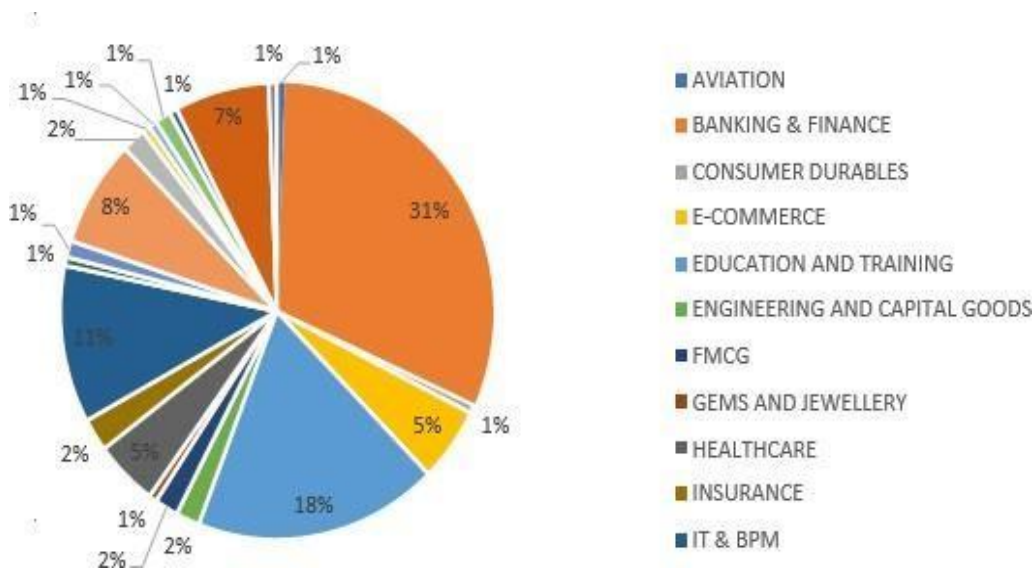
Interpretation: Out of 170 respondents, 85 were male and female respectively. The study has equal representation from both the genders.

Fig. No.: 2 Age wise Data Representation



Interpretation: The data has been well represented by various age groups with 30% between 18-25years, 38% were between 26-33 years, 14% were between 34-41 years, 8% were between 42-49; 4% between 50-57 years and 6% were 58 & above.

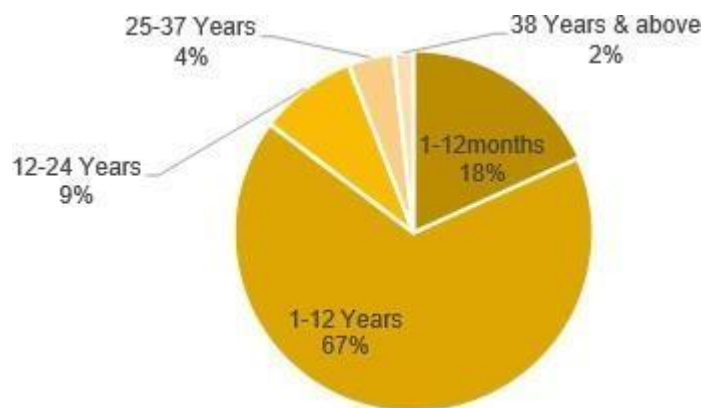
Fig. No.: 3 Sector wise Data Representation



Interpretation: The Fig. no. 3 provides sectoral representation of the data. The respondents represented 14 sectors. Out of 170, 53 respondents were from the banking & finance, 31 from Education & training; 19 from the IT & BPM, 13 from Media & entertainment, 12 from other services, 9 from E-commerce companies, 8 from healthcare sector, 4 from Insurance, 3 from pharmaceutical, Engineering & capital goods, FMCG each, 2 from Retail, Manufacturing each and 1 from aviation, consumer durables, Gems & jewellery, Law & order, consumer durables, real estate, ports, each.

The data has diverse representation with highest representation from the banking and finance education & training and IT & BPM.

Fig. No.: 4 Work Experience of the Respondents



Interpretation: The Fig. no. 4 indicates out of 170 respondents, 114 had work experience between 1-12

years, 31 had professional experience between 1-12 months, 15 had between 12-24 years, 7 had work experience between 25-37 years and 3 of them had experience above 28 years.

Employee Resilience

The employee resilience was measured using the resilience scale consist of 11 items Naswall et. al (2015). Using the 7-point Likert scale (1 = strongly disagree to 7 = strongly agree), respondents were asked to indicate the extent to which they agree or disagree with the statements on resilience.

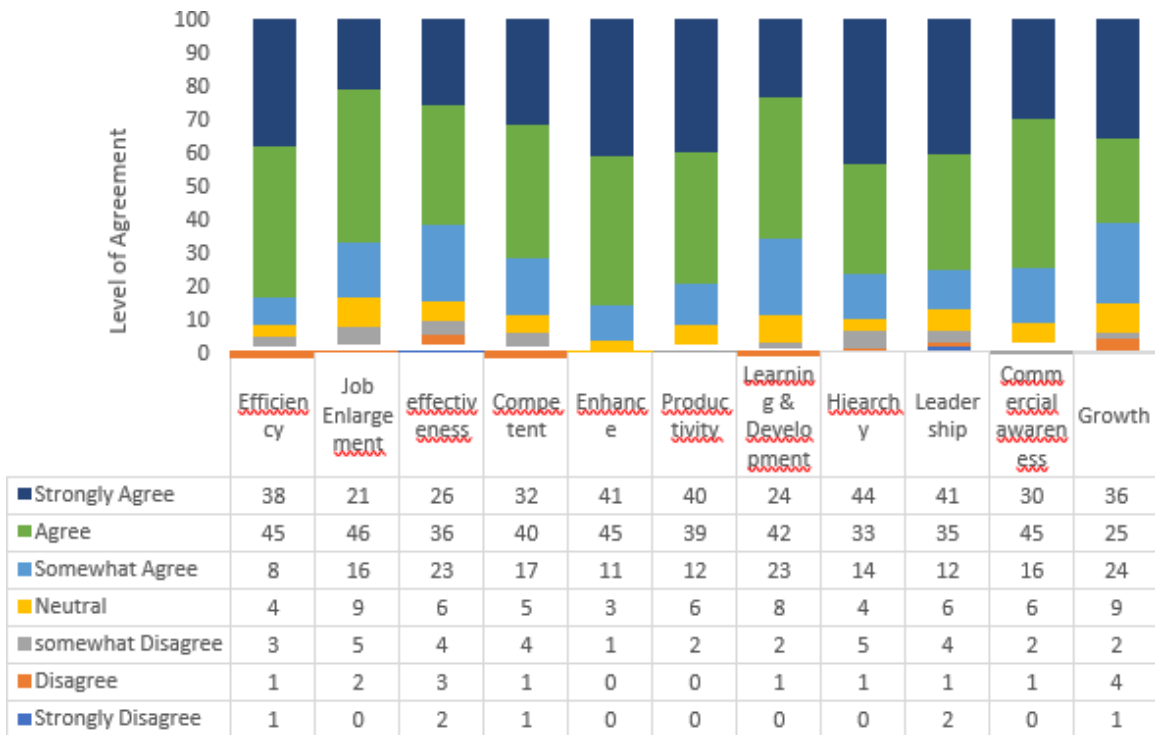
Table :1 The role of an employee during COVID_19 pandemic in the organization

Particular	Strongly disagree	Disagree	Somewhat disagree	Neutral	Somewhat agree	Agree	Strongly agree	Total
Likert Scale	1	2	3	4	5	6	7	
1. I am effectively able to complete my task	1	2	5	6	14	77	65	170
2. I am able to manage the increasing workload	0	4	9	15	28	78	36	170
3. I am able to resolve work related problems effectively	4	5	7	10	39	61	44	170
4. I am competent to manage the on-going change at work	1	2	7	9	29	68	54	170
5. I learnt from my mistakes and improved my task at work	0	0	1	5	18	76	70	170
6. I kept a check on my performance and worked hard to improve it	0	0	4	10	21	67	68	170
7. I effectively responded to criticisms	0	2	3	14	39	72	40	170
8. I knew whom to contact for expertise and support	0	2	9	6	23	56	74	170
9. I approached my manager for support or expertise	3	2	6	11	20	59	69	170
10. I was well aware of my industry's market issues and addressed them on time	0	1	4	10	28	76	51	170
11. I viewed this pandemic as an opportunity to grow	1	6	3	15	41	43	61	170

Source: Compiled by the researcher

Interpretation: Out of 170 responses, 77 respondents agreed to have been able to effectively complete their work; 78 respondents agreed they were able to manage the increasing workload. 61 respondents said they were able to resolve work related problems effectively. 68 respondents agreed they were competent to manage the on-going change at work. 76 respondents agreed learnt from my mistakes and improved my task at work. 68 respondents strongly agreed they kept a check on their performance and worked hard to improve it. 72 respondents agreed they effectively responded to criticisms. 74 respondents strongly agreed they knew whom to contact for expertise and support. 69 respondents strongly agreed they could approach the manager for support or expertise. 76 respondents agreed they were well aware of their industry's market issues and addressed them on time. 61 respondents strongly agreed they viewed the pandemic as an opportunity to grow.

Fig. No.: 5 Employee Resilience during the pandemic



Interpretation: Respondents agreed (45%) that their efficiency at work was high during the course of the pandemic. They also agreed (46%) to have managed job enlargement more receptively during the changing time. The effectiveness at work was also agreed (36%) by the respondents indicating their willingness to resolve issues at work. They also agreed (40%) displaying competence at work in the changing work dynamics. Respondents agreed (45%) of the pandemic gave them an opportunity to enhance their work experience by learning from their mistakes. The data highlights strong agreement (40%) among the respondents on increasing productivity at work. Respondents (42%) agreed they effectively responded to criticisms, which indicate inclination to learn and develop for professional & organisational growth. They (44%) strongly agreed to have clearly understood the hierarchy in the organisation. They also strongly agreed (41%) that leaders and experts were approachable making it comforting to work. Respondents agreed (45%) they were commercially aware and were updated. Respondents strongly agreed (36%) the pandemic was an opportunity for growth.

Thus, the data clearly indicate the 170 respondents, developed strong resilience to the changing the organisational dynamic. It also indicates the presence of organisational support to achieve they work task during the new normal.

Organisational Support

Respondents' perceptions on the organisational support received during the pandemic was assessed using

11 items (Näswall et. al, 2015). The items were marked using a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree).

Table No.: 2 Employee perception on Organisational Support during the COVID_19 pandemic

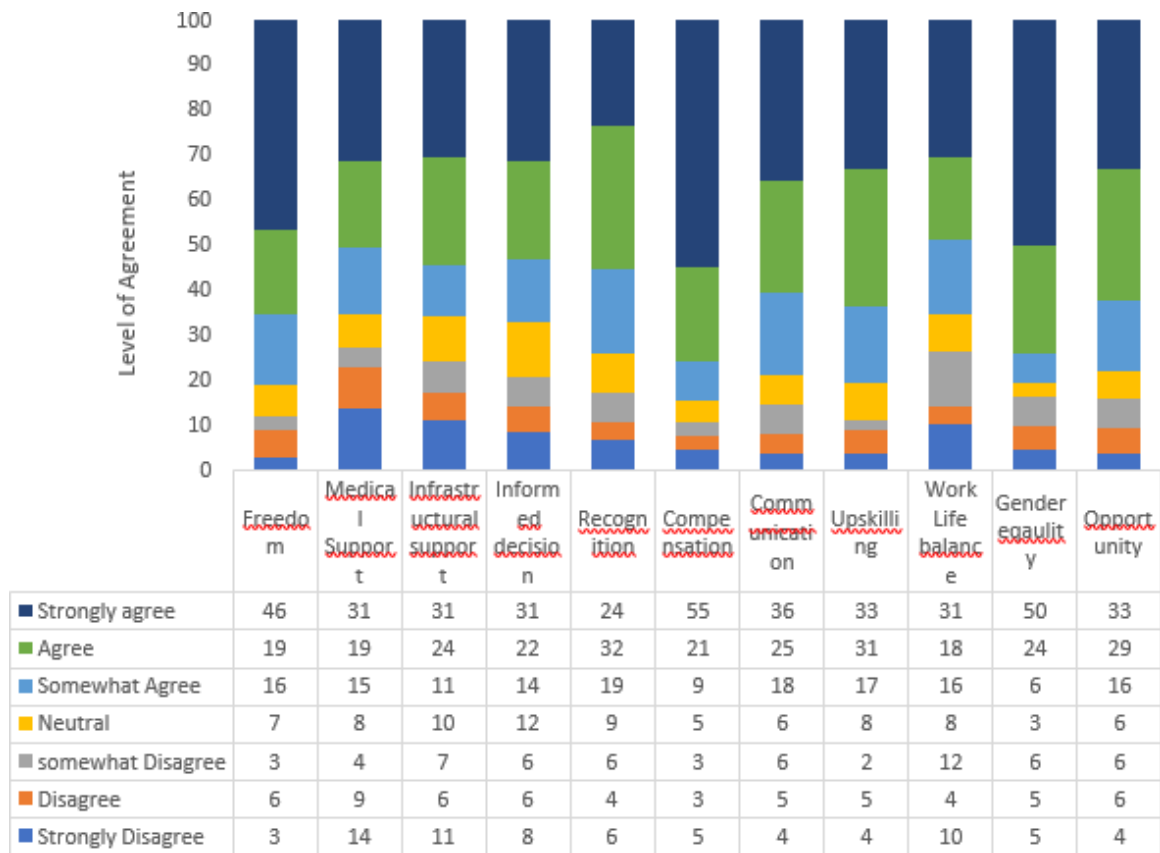
Particular	Strongly Agree	Disagree	somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree	Total
Likert Scale	1	2	3	4	5	6	7	
I am permitted to take leaves as and when needed	5	10	5	12	27	32	79	170
I and my family are medically covered by my organization	23	16	7	13	25	33	53	170
I am supported with all necessary infrastructure to manage the Change	19	10	12	17	19	41	52	170
I am well informed about the management decisions on future actions.	14	10	11	21	24	37	53	170
I am appreciated /rewarded for my work	11	7	11	15	32	54	40	170
I am receiving my compensation in timely manner	8	5	5	8	15	36	93	170
I am encouraged to discuss issues openly in order to learn from it	6	8	11	11	31	42	61	170
I am encouraged and supported to develop my competencies	6	9	4	14	29	52	56	170
I am able to create work life balance	17	7	21	14	28	31	52	170
I am treated equally compared to colleagues (Female/Male)	8	9	11	5	11	41	85	170
I am able to showcase my competencies to the highest management	6	10	11	10	27	50	56	170

Source: Compiled by the researcher

Interpretation: Out of 170 responses, 79 respondents strongly agreed that they were permitted to take leave as and when required. It also indicates 53 respondents strongly agreed that organization provided them and their families with medical cover during the pandemic. 52 respondents strongly agreed they were supported with all necessary infrastructure to manage the change. 53 strongly agreed they were well informed about the management decisions on future actions. 54 agreed that their work was appreciated /rewarded. 93 respondents strongly agreed that they received compensation in timely manner and 61 strongly agreed they were encouraged to discuss issues openly in order to learn from it. 56 respondents strongly agreed they were encouraged and supported to develop their competencies. 52 respondents strongly agreed that they were able to create a work life balance. 85 respondents strongly agreed they were treated equally compared to their colleagues. 56 respondents strongly agreed that they able to showcase their competencies to the highest management.

Thus, the data clearly highlights employees’ perception towards the organisational support was strong. This indicates employees found organisational support during the pandemic which resulted in to displaying resilience at work.

Fig. No.: 6 Employee Perception on organisational support



Interpretation: Employees’ perception towards the organisational support is indicates where 46% employees strongly agreed that freedom at work make it easy to work during the pandemic. 31% strongly agreed to have received medical support for myself and family during the pandemic. 31% strongly agreed infrastructural support help employee get their work done in timely manner. 31% strongly agreed they were well informed about the management decisions on future actions.32% agreed that their work was recognised and acknowledge 55% strongly agreed compensation were paid in timely manner. They also indicated 36% strongly agreed clear communication was encouraged to discuss issues openly in order to learn from it. 33% strongly agreed they were given opportunities to learn and supported to develop their competencies. 31% strongly agreed that to have crated work life balance. 50% strongly agreed gender equality was maintained at their working creating a conducive environment for all. Also, 33% strongly agreed that they able to showcase their competencies to the highest management.

Sentiment Analysis

The respondents were asked to the describe their feeling /experience during the Covid_19 pandemic that encouraged/discouraged their commitment towards the organization. Out of 170 respondents 74 have

provided their experience. The qualitative data was accessed using a sentiment accessing tool Azure Machine Learning in excel. Using sentiment analysis, we have identified the employee experienced during the pandemic and categorized it under negative, positive, or neutral.

Fig. No.: 7 Employee Sentiment Analysis

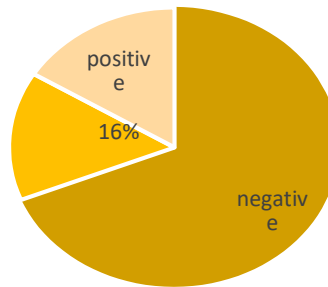


Table No.: 3 Sentiment Analysis

Sentiment Categories	No. of respondents	StdDev of Score
Negative	51	0.161096235
Neutral	11	0.054937574
Positive	12	0.073924551
Total	74	0.246749914

Source: Compiled by the researcher

Interpretation: Out of the 74 employee who experienced encouragement or were discouraged towards the job / organization. 69%(51) voiced negative sentiment, 16% (12) voiced positive sentiment and 15%(11) voiced neutral sentiment.

Using the word tout, a word cloud was created to indicate the key sentiments.

Fig. No.:8 Negative Sentiment



Source: WorditOut

As shown in Fig. no. 8, the key negative sentiment highlighted were work, organisation, home employees' hours, time, life, balance etc. These respondents experienced lack of work life balance during the pandemic evolving negative sentiments toward teams, time and working conditions.



Source: WorditOut

As shown in fig. no. 9 key neutral sentiments were work, organization, cost, office, bandwidth, Travel, etc. These respondents experienced hostility towards the changing work dynamic making their sentiments neutral to the organisation.



Source: WorditOut

As shown in fig. no. 10 key positive sentiment were time, efforts, mindset, able, colleagues, put, like etc. These respondents experienced an encouraging environment where they were able to seek opportunities of growth and balance their work & life. Thus, the sentiment and word cloud analysis highlights that respondent experienced negative sentiments during the covid_19 pandemic. The major issue indicated was the work life balance. It also indicated insecurity at work place which leads to other problems at work place.

Findings of the study

- To measure employee resilience across sectors during pandemic

The study highlights the employees chose to display resilience work dynamic across sectors. The date clearly indicates the perception of the employee towards their work environment was positives with strong

willingness to get the task done in the changing work pattern.

- To understand the role of organisation in encouraging employee resilience during the pandemic.

The pandemic brought in a new approach to work and living, which was the new normal. However, the data indicates employees that strong organisational support encouraged them to complete their task efficiently, competently and productively. They are strong relationship between the organisational support and employee resilience at work place.

- To highlight the employee experience during the pandemic

The pandemic evolved negative sentiments. Employees pinpointed their emotion towards their office, colleagues, and work. The data highlighted the need for more measures on mental health. Employees reciprocated well to the changing work dynamics but were left with some unpleasant experience at work place which shall affect their efficiency and productivity at work.

Recommendations

Employees are the backbone of any organisation. A strong employee work culture build a long term relationship with the organisation which in is visible in the resilience displayed at work them. The pandemic turned around the way things work for most of the organisation. Employee resilience is the key to sustain these changes. Organisation must invest mental health along with infrastructural development. Employees resilience needs to be recognized and rewards. Acknowledging efforts results into high efficiency and commitment at work. Retention is better than recruitment.

Conclusion

An organisation must place above all, the wellbeing of each employee and must focus their decisions towards inclusion of sustaining and building upon the strength of their human resource. Employees' resilience plays a crucial role in helping the organisations sail through challenging environments.

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A STUDY ON IMPORTANCE OF EMPLOYEES RETENTION DURING THIS PANDEMIC IN INDIA (PRIVATE AND PUBLIC SECTORS)

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ABSTRACT

Due to the COVID-19 pandemic, the current business situation requiring engagement of employees, has become one of the most critical and significant for human resource managers and practitioners working in various organizations. The purpose of this research paper is to determine how various companies engaged their employees during the coronavirus pandemic. Organizations are constantly developing new and more innovative ways to engage employees during these difficult times. This is a conceptual paper based on various research papers, articles, blogs, online newspapers, and World Health Organization reports. Organizations are evolving many engagement activities during this pandemic situation, such as online family engagement practice sessions, virtual learning with overall development, online team building activities and events, and webinars with industry experts. Online conducts weekly alignment sessions, team meets over video conference for lunch, short online game sessions, virtual programmes and courses, communication exercises or therapies, live sessions for skill development, counselling sessions, recognition and acknowledgment sessions, webinars dealing with anxiety and stress, providing online guidance for exercise and meditation, social interactions in a virtual environment, Employees and organizations both benefit from a balance of work and home activities. On the other hand, organizations that engage their employees in such activities are learning as well as developing their skills. Employees are committed to the organization and remain motivated in the face of adversity. Time of the COVID19 pandemic Organizations, on the other hand, are able to strike a balance between their objectives and employee retention with their satisfaction during the pandemic. The paper focuses on how employee retention is critical to an organization's success.

Keywords- *Employees Retention, Covid-19 Measures, Organization Success, Employees Engagement Activities*

Introduction

The recent terrifying disease of COVID-19, which began in the city of Wuhan, China and engulfed the entire world, including India's economy, was one of them. It began affecting the entire economy very intensely in March 2020, creating a negative impact in all primary, secondary, and tertiary sectors very drastically.

After claiming many lives throughout the economy, the recent pandemic has had a significant impact on the economic well-being of the economies, resulting in job failure, employability, salary reductions, changes in job roles, employee layoffs, and many other consequences. Different countries experienced varying degrees of impact as a result of this quandary. This means that it had a negative impact on some economies while having a positive impact on others. Nonetheless, the majority of economies have had a difficult economic time. Many employees across the country were extremely dissatisfied as a result of abrupt job losses and, on the other hand, increasing debt pressure. The Human Resources (HR) department in various parts of the world and in our economy was primarily concerned with the professional retention of their employees. To that end, they had introduced or were on the verge of introducing a slew of new measures to address the problem.

The purpose of this research paper is to investigate the role of organizations in employee retention during a pandemic, as well as the impact of the same on employee retention during a pandemic.

Employees are a strategic asset, especially during pandemics. If there is any organization that must be managed, preserved, and retained, with a focus on experienced and skilled individuals, when they are dissatisfied with their current job due to a lack of several influential factors, On the other hand, organizations lose their invested resources to competitors, which damages employee organizational relationships and also has a negative impact on employee morale, which drops dramatically, resulting in a low level of retention.

As a result, employee retention at all levels of the economy suffers. On the one hand, the research will help organizations understand the challenges of employee retention, the impact of employee retention on organizations during a pandemic, and measures to improve employee retention.

Literature Review

1. Robison (2009) proposed strategies for managing in turbulent times and keeping employees focused and engaged during times of change. The author provides some tips, such as telling employees what the organization expects from them, ensuring employees have the right materials and equipment, allowing employees to do what they do best, not forgetting to give recognition, letting your employees know you

care about them, and always encouraging their development. Employee engagement can be used as a bridge to develop employees' attitudes, intentions, and behaviors toward improved work performance.

2. In particular, Currvan [confirmed that workplace structure and individual characteristics-related factors influence employee satisfaction, organization commitment, and, ultimately, employee retention. Increasing employee satisfaction and organizational commitment, Specific factors have been identified, such as improving the work environment, providing fair and competitive compensation packages, and providing clear employee development plans and opportunities for career advancement. Although a variety of factors can influence employee retention in construction firms, improving employee retention necessitates careful consideration of scarce organizational resources, with a focus on the most important determinants.

3. A positive work environment has a positive impact on employee retention. Employees may have a strong sense of belonging if they believe the organization's work environment is characterized by appropriate work ethic, job security, good working relationships among coworkers, and employee involvement in decision making. This may increase their organizational commitment levels in the long term. Employee involvement, according to Mohyin et al., refers to the efforts of organizations in giving their employees a voice in job-related decisions.

Objectives of the Study

1. To understand the concept of Employees Retention during Pandemic period in India.
2. To understand the challenges of employee's retention during the pandemic.
3. To Study the impact of employee retention on organizations during pandemic.
4. To suggest measures to improve employee retention by organizations.

Scope of study

The Researcher majorly focuses on different aspects of employee's retention specifically during pandemic period both from employers and employee's perspective working in public and private sectors. It further discusses on various measures taken to improve employee's retention and engagement which led to increase in the productiveness, accountability, commitment, better team work. Activities both having a positive and a negative influence of impact employee retention on organizations (both private and public sectors).

Research Methodology

Sources of data collection

Secondary data: It majorly consist the information collected from various sources like books, websites, journals etc. The researcher has first studied about the concept of employee retention and measures to improve and its impacts through literature review.

Challenges of employee's retention during the pandemic

COVID-19 pandemics have become one of the most difficult challenges for employers and employees to retain. Year-over-year turnover trends have significantly decreased, and nearly a year into the COVID-19 crisis, employees are still clamoring for more. To research and analyses the issues that employees are facing as a result of COVID-19.

The researchers discovered that workers across demographic groups and geographies reported a strikingly similar set of challenges related to mental health, work-life balance, workplace health and safety, a lack of connectivity and belonging with colleagues, and concerns about job opportunities related to mental health, which were far higher in developing countries than in developed countries. Working women are mostly concerned about their mental and social health, as well as their safety. At the organizational level, employees, particularly diverse employees and working parents, continue to face a slew of challenges as a result of the pandemic and other job security and employment status while adhering to all COVID-19 guidelines.

- Working hours at the workplace and working from home (Virtual);
- The Pattern and Quality of working culture, including both national and different work place with respect
to employer – employee relationship, work culture, leadership styles prevailing in the organization, styles of management and supervision, trust factors involved and other practices, etc.
- Reconciliation of work and family;
- Professional environment work culture and different modes or mediums traditionally characterized by one- to-one contact with the clients, customers or students at different levels in education, service or any other sector.
- Workplace development and workplace learning

Impact of employee retention on organizations during pandemic

As a result, the current business of engaging people has become one of the most critical and significant for human resource managers and practitioners working in various firms, with global implications. Due to the lack of standardization of regulations in India, young people are at a disadvantage. Indian talent, as a trained professional workforce, had a harder time during the epidemic than their counterparts worldwide. While businesses must remember how to keep employees in good spirits at all times, employee retention has become a top priority during the COVID-19 pandemic. Extreme uncertainty at the highest levels of the organization, along with terrible evidence from around the world and the practically insurmountable odds. Companies were obliged to adjust their strategy and establish new structures as a result of a single day's closure of countries. Employee retention is important from both perspectives; it is important for developing a productive, healthy, and committed workforce, and employees who stayed with the company during the pandemic received various benefits from the company, including the continuation of their job profile, the avoidance of becoming unemployed during this difficult time, and the receipt of old age benefits.

In December 2021, the unemployment rate in India reached 7.9% during COVID-19. To add to that, the jobless rate has risen to above 7% in the latter three months of 2021. Since the COVID-19 pandemic began in March 2020, the country's unemployment rate has always been at odds with the many limitations and lockdown measures enforced by our respective governments, as well as the overall economy. While the estimates from 2021 are slightly better than those from 2020, they are still quite high when compared to prior levels. As state governments around the country begin to impose restrictions such as curfews at night and on weekends, as well as the closure of specific sectors. As we continue to ride through these exceptional times, it is a challenging moment for organizations to consider recruiting and retention in numerous industries.

Measures to improve employee retention by organizations

Through this research article, the researcher attempts to understand why employees remain in firms during the pandemic. Things began to improve in July 2021, following the peak of the second wave, which was comparable to the preceding wave. Employers must develop successful employee retention strategies that support several important areas in order to succeed in employee retention strategies, combat high turnover rates, and focus on multiple work experiences that have been proven to keep employees for longer periods of time. Businesses must adjust their leave and benefit arrangements to account for pandemic

disruptions in order to respond to the chaos produced by the outbreak. The economic impact of the pandemic, on the other hand, has no bearing on any new government rules. Some businesses have put in place procedures to combat this.

1. Companies have changed their leave policies to include "special leave" for employees who need to self-quarantine due to a perceived risk of exposure, as well as an "extraordinary leave" policy with full pay.
2. Extend healthcare coverage to include mental health, and make sure employees are aware of their options. Providing a stipend for an online fitness programme or hosting a guided yoga class are also options.
3. All employees, even hourly workers, will be reimbursed for the cost of setting up a home office.
4. They are also working with their vendors to guarantee that the demands of contractors who work from home are satisfied.
5. As offices closed, working from home was requested, and all necessary facilities were supplied.
6. Workplace flexibility in terms of days, hours, and shifts.
7. Allow for flexibility in work-life balance, ensuring that all employers value work-life balance. Work from home options are available. Encourage employees to devote time to their families and personal obligations. Consider compensating late nights with more time off if they are essential to accomplishing a project.
8. As the workforce has shifted to digital/virtual, virtual skill development programmes and training can be developed.
9. Encourage teamwork by facilitating collaboration, adapting individual work styles, and allowing everyone the freedom to make judgments and course corrections as needed.
10. Maintain open lines of communication, as many employees may be working remotely for the first time, and adjust to the lack of face-to-face connection to make them feel at ease.
11. Team-building exercises can boost collaboration and overall job satisfaction while also lowering staff turnover. In the event of a pandemic, there are numerous things that firms may do to improve the virtual employee experience.

Employers have faced numerous unique obstacles as a result of the pandemic, and employees' experiences have been drastically altered. Employers make adjustments to meet their company goals while keeping all of this in mind.

Findings of the Study:

Organizations and personnel are interdependent in order to achieve their goals and objectives. Employee involvement should be a long-term strategy, but it should also become part of the company's culture. A variety of factors influence employee engagement, including career advancement opportunities, encouragement, communication, and recognition, employee hours' flexibility, a fair pay structure, a transparent and open work environment, and participation in decision-making. Engaged employees, on the other hand, tend to lead to increased productivity in the workplace, which, in turn, leads to improved customer satisfaction and positive increases in sales and profit for businesses. In these instances, employee and organizational confidence and communication are critical. There must be a unified front between the two. During these times, businesses should focus on their employees' learning and growth. Typically, firms attempt to organize various webinars and online sessions for the development of new skills, as well as online counselling sessions that assist employees in staying safe and healthy at home. Employee engagement practices are used by a variety of firms to make employees feel valued and thus act as a morale booster for both employees and organizations in a unique and diverse way to keep employees content, happy, and dedicated to the organization. It is vital to establish employee engagement initiatives during this horrible moment of the epidemic.

Conclusion

The study concludes with lot many aspects playing a vital role in making employee retention as a major focus on the part of the organizations and also work on the retaining part of employees in the organization with achievement of objectives by playing a dual role of employee retention, job satisfaction, vision and mission of the organization or companies too. Obviously the impact of the same on the employee's retention is observed to be very negative at one side and also few measures are to be adopted by the organizations in order to work on the concept of job retention. Lot many strategies need to adopt by the organization as a suggestive measure to improve the status of the same during this pandemic. Employee retention rate plays a very important role because it helps us to understand how our business performs or is able in keeping employees and whether or not there is a requirement to improvise the system where in following are the,

Few suggestive measures for the same:

Might it be any sector organization has to strive to stabilize the things by implementing few strategies in an innovative manner in order to retain employees and also develop their morale in this pandemic situation? To list a few:

- Use comprehensive hiring practices.
- Strive to create supportive work environments.
- Provide proper training and development.
- Always communicate.
- Offer benefits and perks.
- Create career development plans.
- Provide effective manager training.
- Create internal recognition programs.
- Support employees in educational endeavors.
- Encourage skill development.
- Show employees how their work affects customers.
- Offer fair compensation.
- Always provide actionable feedback.
- Encourage a proper work-life balance.
- Practice effective change management.
- Always emphasize teamwork.
- Offer flexible work options.
- Create an inclusive work environment.

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AN ANALYSIS OF AWARENESS AND INTEREST FOR STOCK MARKET AMONGST UNDERGRADUATE STUDENTS: CASE STUDY OF NAGINDAS KHANDWALA COLLEGE

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ABSTRACT

‘We don’t have to be smarter than the rest, we have to be more disciplined than the rest’ – Warren Buffett. These words of one of the most successful investor of the world conveys clearly that regular investment is a key to wealth creation. In current era, one has to create sources of passive income during the period of active income. Being an academicians, interacting with students regularly, it seems, current generation gazes for investment even before they really start earning. With the pool of information and resources available at a fingertip, students are unable to resist themselves from investment in stock market. Stock market investment can create path of growth and prosperity for youngsters with the risk of deviation from study, targeting easy money, disrupting parents’ wealth and resorting to gambling. With widening the wings of crypto currency and non-fungible tokens (NFTs), does these youngsters still be interested to invest in stock market? This research, will give insight on beliefs and eagerness of undergraduate students towards stock market as well as unregularised market like crypto and NFTs.

Keywords: *Stock Market, Investment, Undergraduate Students, Awareness*

Introduction

‘I made my first investment at age eleven. I was wasting my life up until then.’

– Warren Buffett.

These words of one of the most successful investor of the world conveys that investment habit inculcated at an early age is a key to wealth creation. In current era, young generation seeks to be another Warren Buffett. With rising inflation and improving standard of living, income will remain always insufficient. Everyone is looking for

parallel source of income during earning age. This directs people including youth to invest in various avenues to create secondary and passive source of income.

Fixed deposits used to be one of the favorite investment option amongst investors. Low real rate of return due to rising inflation and fall in interest rate made investors to look for better alternate investment options. In search of high return investment options, investors diverted their savings to Mutual Fund and Stock Markets taking risk as per their respective appetite.

Current Finance Minister of India, Smt, Nirmala Sitharaman also mentioned in her speech once that “FIIs and FPIs may come and go but today Indian investors have proven even if they come and go, any shock that may come is now taken care of because of the shock absorbing capacity Indian retail investors have brought into the Indian market.”

Students at undergraduate level always target high income and high return. Students get attracted to stock market easily with high risk appetite. Students are merely concern about risk as they don't share any responsibility of household expenses yet. Loss of entire amount invested will not bother them rather they will learn from it. It is rightly pointed that a promise of higher return and probably the temptation of higher risk along with a tax benefits may be the reasons for the participation of youth in Indian Financial Market (Saikia S, 2015).

Positive influence of increasing economic growth on job market resulted into rising graph of salaries. The new generation of youth in India will have money in its pockets and ample opportunity to put it to good use, if they can shift from the traditional bank account savings to the capital market. (Saikia S, 2015). High end technology and smooth internet frequency are blessings for students to guide them in their investment decisions. Due to mobiles with ample of market related apps students are unable to resist themselves from investment in stock market. Stock market investment can create path of growth and prosperity for youngsters with the risk of deviation from study, targeting easy money, disrupting parents' wealth and resorting to gambling. With widening the wings of crypto currency and non-fungible tokens (NFTs), does these youngsters still be interested to invest in stock market? Researcher in this research, will give insight on beliefs and eagerness of undergraduate students towards stock market as well as unregularised market like crypto and NFTs.

Review of literature

Indian stock market has seen remarkable growth over past few years in terms of people's participation, volume of trade, varieties of financial products, statutory regulations, technological innovations and strategies of investment. The market is getting increasingly integrated with the global financial markets. At the same time, the various financial markets within the economy are getting increased. (Ashraf S. and Baig M., 2015).

Different investors behave differently in different market situation with different expected return and flexibility. Various study is conducted on the demographics and psychographics factors considering age, gender, education level, race and income groups. In addition, investors have to develop positive vision, foresight, perseverance and drive. An optimum investment decision is the most crucial challenge faced by the investors is in the area of investment decisions (Yadav L., 2015).

The stock exchanges, National Stock Exchange of India Ltd. and Over the Counter Exchange of India have been structured to report and solve various problems arising to investors out of the operational weaknesses of our market and provide more transparency in trades at national level. (Mani S., 2017) India is one of the biggest unexploited investment opportunities in the world today. (Mittal S. and Kumar R., 2014) Investment in share market is gradually attracting attention of retail investors in India with more and more knowledge and awareness on risk and return generated from stock market investment. This research study has attempted to guide on how to construct well diversified weighted portfolios of securities in Indian market which helps to earn positive return during different phases of economic situation. (S. Ghosh & T. Chakraborty, 2018). In this research paper researcher concluded that the socio demographic profile of the respondents revealed based on responses collected from 90 respondents that 86.7% of investors fall under the age 21 years – 31 years. One cannot invest in stock market without risk. Investor may lose their money if they don't be successful. Though early entry are most likely to be profitable. Therefore, investors are advised to consider demographic, economic and company factors while deciding the investment avenues. (Ramkumar G., 2017)

Students still have little or no experience with partial knowledge of capital market transactions. Capital market literacy has an imperative role to increase student knowledge in the area of capital market, increase their enthusiasm to invest early and turn out to be a smart capital market investor. This research paper targeted to find out the role of capital market literacy while making right investment decisions. This study indicates that that, attainment of capital market school, conferences and webinars creates interest of students in capital markets and gives them directions. (Gusni et al., 2020) In research conducted on Indonesian students it was concluded that creating a campaign or program to promote stock investment will definitely help to give a better understanding of Indonesian young generations' outlook regarding stock investment. The probability of increasing number of investor be more prominent. (Nugraha B. and Rahadi R., 2021) In a minor research conducted on 'Investment Pattern of Youth in India with Particular Reference to Mumbai' researchers concluded that rapid spread of information through internet and mobile keeps youngsters updated. An educated investor is a good investor which is more likely to get good return with minimum risk. India's Young generation that is students can become a good investor by updating and upgrading their investment knowledge. But that

is not now only restricted to seminars and workshops, these are replaced by podcasts, online videos, forums and tutorials. The social media platforms especially Face Book, Twitter, LinkedIn along with e-groups and websites can be add on to other options available to spread awareness amongst the young investors. Media too can create a special column to address young investors to encourage more participation in the capital market from the young generation (Saikia S, 2015). These reviews made researchers to look into awareness and interest for Stock Market amongst undergraduate students.

Objectives of the study

This study was undertaken with following objectives in mind-

1. To study awareness of stock market amongst undergraduate students.
2. To evaluate undergraduate student's eagerness to invest in stock market.
3. To assess objectives of investment in stock market for undergraduate students.
4. To gauge willingness of undergraduate students to invest in unregularised market of crypto and NFTs.

Research methodology

This research is intended to study present state of awareness and interest of stock market among under graduate students. To understand past study in the same area and research gap if any, few research papers and reports were referred as a secondary data. To evaluate present level of awareness and interest amongst undergraduate students, primary data was collected by circulating a questionnaire through Google form filled by 274 students studying in various stream of under graduation at Nagindas Khandwala College.

Limitations

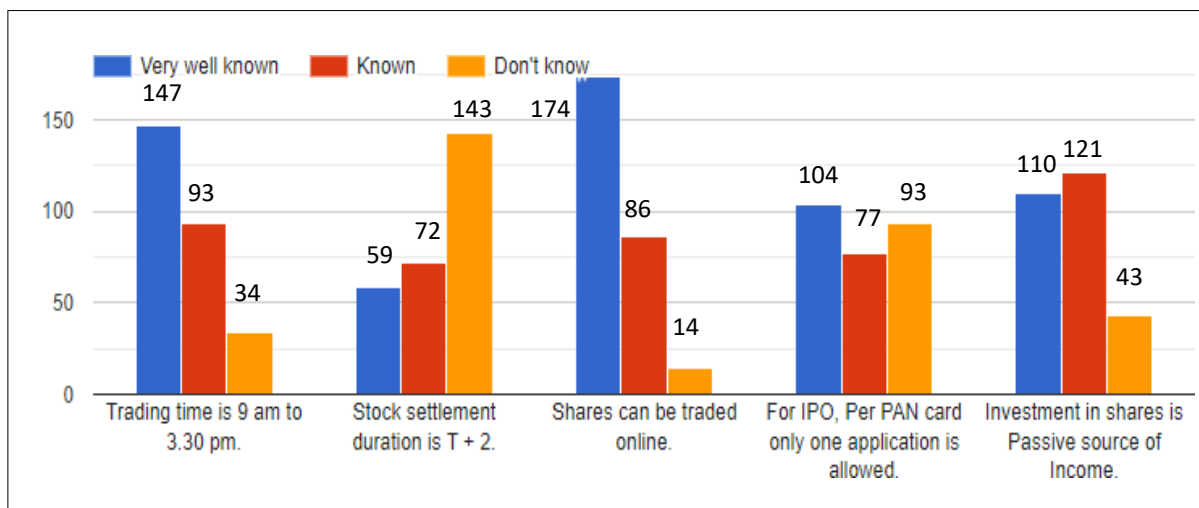
The study has certain limitations pertaining to its coverage. One of the researchers being faculty at Nagindas Khandwala College, circulated questionnaire to students of various streams at Nagindas Khandwala College with the help of class representatives. So this study was limited to the students of Nagindas Khandwala College only. Primary data was collected online through Google form with limitation of personal interaction and discussions with each respondent. It does not involve study of undergraduate students at suburban or district level due to geographical and time constrains.

Data analysis

Data collected through questionnaire is analysed and evaluated as given below

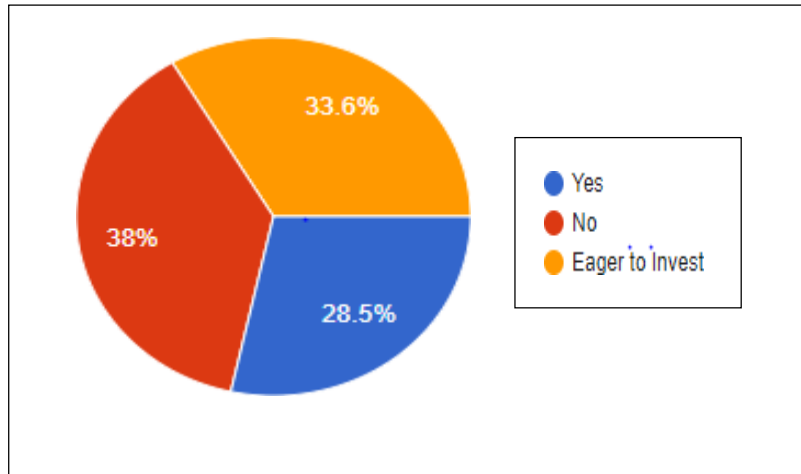
Courses Classes	BMS	BAF	BBI	BFM	BAMMC	BMS (E- Commerce)	B.Com / B.A.	Total
	FY	7	98	2	14	5	0	0
SY	5	17	20	11	24	20	1	98
TY	10	10	14	1	9	0	6	50
Total	22	125	36	26	38	20	7	274

As shown in above table out of total 274 respondents 46% students were from First Year of under graduation, 35.8% students were from Second Year of under graduation and 18.2% students were from Third Year of under graduation. Out of total 274 students, 204 students (74.50%) are working along with their study and rest 70 students (25.50%) are concentrating only on study. Awareness level of students on working pattern is analysed based on following few questions.



As indicated above majority students were aware on trading hours, trading methods and criteria. Trading settlement method was unknown to major students. Major students were knowing that investment in shares are passive source of income that means students are ware about active and passive source of income. Looking at above responses, it can be concluded that students are aware about various aspects of stock market trading except one or two aspects.

When asked about investment in stock markets, as reflected in below pie diagram, 78 students already had started investing in market along with their study which shows their confidence on their own knowledge, awareness and decision making capacity to earn return from market in spite of risk attached to it. 92 students, though not investing they are eager to invest.

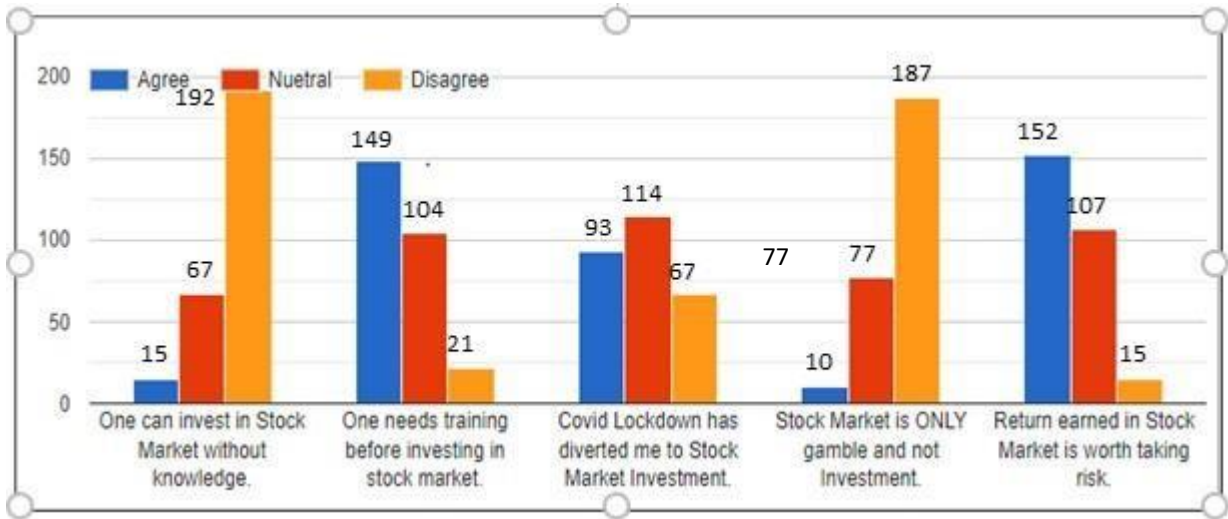


Below is the evaluation table of 78 students investing in stock market out of total 274 respondents.

Investment in Stock Market by Under Graduate Students		
Frequency of investment		
Once in a while	22	78
Monthly	24	
Weekly	18	
Daily	14	
Approximate amount of monthly investment in stock market		
More than Rs.30,000	10	78
Rs.20,000 - Rs.30,000	8	
Rs. 10,000 - Rs.20,000	13	
Less than Rs.10,000	47	
Source of Information for Market Investment		
Own Market Analysis	36	78
Expert advice on live shows	3	
Relatives or Friends	25	
Broker	5	
Tips received from unknown sources	3	
All of the above	2	
Other	4	
Objectives of investment in stock market		
Creation of wealth	35	78
To Diversify Investment	5	
Passive Income / Side Income	31	
High Return	5	
All of the above	2	

Evaluation of student's understanding level regarding stock market is given below bar diagram. 192 Students disagreed to statement that one can invest in stock market without knowledge. That means students at young age also understand that investment in stock market without knowledge will be risky and may lead to huge loss. 149 students agreed that one need to be trained before investing in stock market understanding need of

special skills required for trading in stock market. Many of students were neutral to diversion of their interest in stock market due to Covid-19 lockdown. Very few students agreed that stock market is only gamble and not investment. Presently students get knowledge regarding stock market by attending



seminars, workshops and training so as to get maximum return with minimum risk by investing in market. So they don't consider it as a gamble. 152 students agreed that risk taken by investment in stock market is worth taking, concluding that with this small risk they get opportunity to earn more than fixed return securities with invested wisely with proper study and analysis of various factors affecting market movements.

Respondents reply on investment in crypto currency and Non-Fungible Tokens (NFTs) are presented in table attached below-

Consideration on Investment	Crypto Currency	Non - Fungible Token
Yes, Already Invested	28	14
Yes, Eager to invest	91	67
No, Not a Safe Investment	66	35
No, Not aware of it	79	156
Other	10	2
	274	274

Majority of investors are not aware about options of investment in crypto currencies and Non-fungible tokens. But considerable numbers are eager to invest in these options.

Observations & recommendation

Based on the research conducted researchers would like to give few recommendations–

- Students pursuing specialised undergraduate course, such as Bachelors of Commerce (Financial Markets) definitely has an advantage of gaining profound knowledge of market compared to other courses.

- Undergraduate students are aware of investment in stock market. But they still need to gain in depth knowledge required to be a successful investor. Students need to clear their fundamentals by attending various seminars, workshops and training sessions. Regularly watching expert's shows telecasted on various market related channels such as CNN News -18, ET Now, CNBC – TV 18, Times Now, Zee Business, NDTV Profit and CNBC Awaaz can also help students to be updated on market movements and reasons for the same.
- Various gaming apps are also available now a day, which can be a training ground for students such as Moneybhai, NSE Pathshala, Dalal Street Stock Market Challenge, Market Watch, and Invest fly. Tading though these apps will help students to acquire skills of decision making on right time of entry and exit with identifications of good scripts to deal in.
- Undergraduate students can also practice paper trading to avoid probable loss at an initial stage of trading. Once they start making profits in paper trade the same can be executed.
- Stock market is a lucrative investment option so student become eager to invest in it as early as possible. But students need to make all possible attempts to acquire knowledge and skills trade profitably earning maximum return at minimal risk.
- Creation of wealth and Passive Income can not only be objectives to invest in stock market. Students need to understand that they need to invest in fixed return security also along with market to frame an optimal portfolio with proper diversification.
- Keeping high expected return will help them to analyse and evaluate various scripts before investing in a better way. So they should always target highest possible return evaluating Beta, Variance and Standard deviations of various securities.
- Undergraduate students are future citizens of the country. They need to be flexible enough to embrace investment instruments traded at a global level. Looking at global financial market, students need to start evaluating Crypto currencies and Non Fungible Tokens as an investment option.

Investment is very crucial decision in life. As it can generate parallel income or may result into loss of all entire wealth created by past earnings. So students need to understand both sides of all investment instruments before finalising decisions to invest. For investment any level of knowledge may prove insufficient at a time based on situation, so understanding impact of global, national and local environment on market can also be a tools of being successful investor.

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A STUDY OF SATISFACTION LEVELS AMONG PATIENTS ADOPTING TELECONSULTATION DURING AND POST COVID 19, IN CHEMBUR, MUMBAI

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ABSTRACT

Tele consultations have gained popularity over the last couple of years consequent to the lockdowns imposed by the Indian Government to arrest the virus from spreading, called the “Covid-19”. This pandemic restricted the physical movement of patients, leaving them with no option, but to go in for teleconsultation, when they needed to visit their doctors for health-related issues. This not only saved a lot of time and effort, as perceived by the patients, but also helped them keep up with their doctor visit schedules without skipping them both during and the post pandemic period. The current study focuses on evaluating the convenience of patients while booking a teleconsultation with a medical practitioner, while measuring their satisfaction levels. The study also focuses on finding out the limitations of teleconsultation and suggesting measures to improve the same. For this purpose, a survey was conducted among 100 patients residing in Chembur, Mumbai of the Mumbai city using google form. Information on patient satisfaction was elicited from the patients who tele-consulted their doctors and a centre which facilitated this kind of teleconsultation for its patients with their doctors. On summarising the results, over 70 per cent of the patients were satisfied and over 75 % of the doctors were satisfied in helping their patients with their health issues. Though, this distant consultation had its own issues like the technical glitches and the requirement of a laptop, desktop or at least a smartphone. Teleconsultation and telemedicine, in urban areas can be easily replaced with face-to-face consultation, and may also suit some of the rural areas.

Key words: *Teleconsultation, Telemedicine, patients, satisfaction*

Introduction

The integration of the IT sector, Technological advancement and the medicines, are now tapping the healthcare industry. Teleconsultation and telemedicine paved a way for the urban lot in India during the recent pandemic to reach their doctors. They were quick and simple ways, though had their own inherent limitations. The masses used phones – apps like whatsapp, zoom or face time at some point to consult their practitioners. Adoption of blockchain healthcare across healthcare applications globally, in 2019,2020 and 2025 has become popular with a projected rate of fifty-five percent of healthcare apps will adopt blockchain and deploy commercially by the end of 2025.

Ayushman Bharat Digital Mission (ABDM), PM's initiative in 2017, has focussed on data integration aspect of the 2017 National Health Policy, with an idea to integrate data from over one and a half lakh primary health centres across India and provide medical insurance scheme for 100 million households and other sources to create a national digital health ecosystem. It will come with a unique health identifier on the lines of Aadhaar. Covid19 is a major contributor to the digitization of India, especially the medical industry. Launched by the Ministry of Health and Family Welfare in August 2020, the National Digital Health Mission (NDHM) has developed the central hub needed to support an integrated digital health infrastructure and has various actors within the health ecosystem. The purpose is to fill the gap between them. Core elements of such an environment include digital health registers, proprietary digital patient ID cards or Aadhaar, interoperability, billing automation processes, and transactions without cash.

Bettering the clinical route via teleconsultation

The teleconsultation world brings together all the stakeholders in the health industry and makes sure that the clinical route, i.e.,the patients' pathway starting from consultation and moving to diagnostic, to hospitals and wellness is covered and connected in a digital manner. The clinical pathway meant for a patient or a consumer can differ based on the type of ailment they're facing. For an acute disease, acute ailments would be better managed in a hospital set up considering the limitation of inaccessibility to physical examination and pharmaceutical treatment

Teleconsultation platforms can possibly improve the patient journey depending on the disease types, by approving digitization across required steps. The platform can be digitized as the treatment is standard and complicated physical exams or diagnostic tests aren't necessary. But in case of a chronic ailment, like diabetes or arthritis, physical examination and diagnostics become increasingly important. Hence, these steps could be needed to be done in the presence of the responsible authority. Though chronic disease management and medicine purchases can be done online with much ease.

Also, the patients with chronic diseases or consumer could give value to the digital disease management that a platform can be given by joining the information from wearables and remote monitoring devices on the platform for reference that are more or less effortless, So digital medicine could be useful in follow ups for chronic diseases.

The Indian healthcare enterprise is at the brink of change. The key facilitators that are driving this transformation are rising income levels, shifts in disease, mix and demography, increased affordability, accessibility, awareness of health and wellness, and growth of digital technology. Smartphones and data networks connect us better today as compared to a decade ago. Connectivity has become extremely essential right now, especially to manage all these uncertainties surrounding COVID 19.

The number of smartphone subscriptions in India has gone up to 620 million in 2019 and is expected to reach 1 billion by 2025

The nation is expected to shift to 5G with Long-Term Evolution LTE (4G) accounting to 64% and 5G responsible for 18% of the subscriptions in 2025¹¹. 5G is likely to be much faster in terms of speed, more secure unclog the eternally strained networks. Delivery of healthcare services through the 5G could be better. Connected smartphones with sensors are capable of capturing an expanding range of data for disease diagnosis and management. Sensors will become highly widespread and collaborate outside the traditional health sector to extract and combine data from medical and non-medical sources. This data along with 5G network and Artificial Intelligence (AI)-based solutions has the potential to offer hyper-personalized healthcare.

With the support/ integration of the IT sector, the healthcare industry in India has shown a tremendous growth: By the end of 2022, Indian healthcare industry is projected to grow to \$372 billion dollars.

Hospitals, medical devices, clinical trials, outsourcing, telemedicine, medical tourism, health insurance, and medical equipment are all part of India's healthcare industry.

The medical sector is growing at an overwhelming rate, thanks to coverage, expanded services, and increased spending from both public and private companies.

The Indian hospital industry, which accounts for 80% of the total healthcare market, has received a great deal of interest from domestic and foreign investors. The

hospital industry is expected to grow from \$ 61.8 billion in 2017 to \$ 132 billion in 2023 with a yearly projected growth rate of 1617%.

- By 2020, medical tourism in India is expected to increase from \$ 3 billion to \$ 78 billion. Current valuation of Indian diagnostics is USD 4 billion. Here, the organized sector's share is around 25 per cent- which accounts for fifteen per cent laboratory and ten per cent radiology.

- The primary care industry is currently worth \$ 13 billion. In this situation, there is virtually no share of the organized sector.
- 70,000 Ayushman Bharat Centers have been established in India with the aim of providing basic medical care to people near their place of residence.
- The AYUSH market grew by 17% from 2014 to 2016, to \$18.1 billion, and the business is expected to increase to \$23.3 billion by 2022.

Nevertheless, it is not a sustainable mode of consultation at a scale that India needs, mainly due to the lack of a proper teleconsultation platform and modularity of patients' data.

The integration of information technology and medical care has emerged as a telemedicine technology. Telemedicine provides a platform for communication and data exchange between doctors and patients over the high-speed Internet. This is useful for video conferences of patients in remote areas. India has taken various telemedicine initiatives among developing countries. Various studies on telemedicine have been conducted to assess knowledge, awareness, effectiveness, and to know the extent to which this is accepted by patients and physicians, and access to awareness and knowledge of medical workers.

According India; RBSA Advisors; EY; BCG; In the financial Year 2020, during the coronavirus (COVID-19) pandemic in India in 2020, Majority of the people willing to book telehealth visits during and after pandemic period were in the age group of 35-44 (thirty-seven per cent). The share of respondents in the same age group during the before covid period was over 30 percent. Most of the patients were not willing to leave their homes even for doctor visits or routine check-ups as they were scared of getting infected by the virus. Telemedicine and technology came handy during these times. These had a wide reach and were, even for patients who were chronically ailing.

Current study attempts to evaluate the factors contributing to the satisfaction of the teleconsultation services offered in India.

Review of Literature

As per Sheik (2013), in a review led by him in the working of teleconsultation and telemedicine administrations, by Master Gobind Singh Clinical School, the snags like absence of clinical experts, settling offorthcoming cases and such other significant issues could be overwhelmed with the assistance of mechanical headways, if and provided that both the patients and specialists showed their eagerness and accessibility for tele meetings and drugs and It was inferred that absence of inspiration and low instructive abilities among thepatients are the key components that ended up being principle deterrent in the development of telemedicine administrations. The essential information for the year 2010-2012 has been gathered from the medical clinic where an absolute 3050 cases had gone through for telemedicine therapy. The level of finished cases in 2012 was 57.47%, fragmented cases were 37.93% and of intermediary cases it was 4.6 % of all out cases. This

information shows that there is a need to work on quality and consciousness of telemedicine administrations among provincial individuals. Perhaps standardisation in tele services could help improve quality and accessibility.

Gautham et al. (2014), in their review reasoned that e-medical services could be advocated among the metropolitan part with a clinical direction created to utilize portable innovation to support up the nature of e-medical services to help patients analysed. The clinical direction framework with the utilization of versatile innovation to improve the nature of e-medical care. The created framework gives direction to oversee different sicknesses. The application was tried on 128 patients by 16 specialist co-ops in the rustic spaces of Tamil Nadu, India. The application was viewed as reasonably good for the two patients just as for specialist co-ops. Comparable innovations were shown up by Udit et al (2014). It has been accentuated that the achievement of e-medical services relies upon innovative variables as well as on brain research factors. In a review led by shore et al., telehealth may can expand the adequacy and decrease in the expense of exploration with country, remote, and underserved individuals

Objectives of the study

In the light of the above literatures, reviewed, the present study attempts to investigate the

1. Effectiveness of teleconsultation, as perceived by the patients
2. Identify the factors that contributed to the satisfaction levels of the patients

Research Methodology

The Study: Period of the study was from May 2020 to November 2021. The study consisted of respondents who underwent medical teleconsultations with their doctors.

Secondary: M.Phil Thesis and PhD thesis, Journals and other periodicals.

Sample and Design: Present study is designed to find the factors contributing to the patients' satisfaction of going in for tele consultations with doctors and doctors resorting to telemedicine, to help their patients 100 patients Chembur, one of the harbour suburbs of Mumbai City. Chembur lies in the Mumbai South Focal parliamentary constituency. Chembur is encircled by the neighbourhoods of Kurla, Deonar, Mahul, Govandi, Chunabhatti and Ghatkopar. The respondents belonged to the age group of 18 to 60years. Demographic and socio-economic factors like age, gender, occupation and income were considered to be independent variables. Tool for Data Collection: An structured interview schedule was administered to patients who sought medical advice from their doctors and the doctors who helped their patients via teleconsultations. Purposive sampling technique was adopted for the purpose of identifying people who sought teleconsultation for their health issues.

Tools for Data Analysis: Data has been analysed using statistical packages. Frequency analysis was used to analyse the demographic profile of the respondents. Hypothesis testing was done using Chi-Squared test for socio-economic/ demography and opting for teleconsultation at 5% significance level. Confirmatory Factor analysis was conducted to find out the satisfaction level of the patients who sought teleconsultation with their doctors. Factor analysis was adopted to find out the satisfaction parameters as perceived by patients. Factor analysis used to analyse the data based on PCA with varimax rotation.

Results and Discussion

Demographic profile and socio economic profile of the respondents – Patients who opted for teleconsultation

Table 1 Demographic profile and socio economic profile of the 100 respondents surveyed – Patients who opted for teleconsultation

Characteristics	Total	Characteristics	Total
Age		Gender	
18-25	62	Male	32
25-40	26	Female	68
40-55	11	Level of Education	
Above 55	3	High Schooling Complete	23
Under Graduation Complete	32		
Post-Graduation	12		
Professional Degrees	13		
Doctorate and higher level	20		
Employment Status			
Private sector Job	37		
Government Job	43		
Self Employed	10		
Unemployed	10		

(Source: Estimation based on data collected from field survey)

The above table, Table No 1 shows the demographic and socio economic profile of the respondents. The gender profile of the respondents indicates that a majority (68 percent) of the randomly surveyed respondents seeking teleconsultations for various health ailments were women. Age profile of the respondents shows that a lot (62 percent) were from the youngest lot, in the age group of (18-25 years of age) and were women, while only one percent of the respondents (three of them were in the oldest age group surveyed). All the respondents were

reasonably educated and had at least completed their high school levels of education. a few of them (20 percent) even had their doctorate and higher level of education.

Number of members in the family of the respondents, a majority more than four members in the family (seventy per cent). While only a few (thirty percent of the respondents had two or three members in the family.

The job profile of the respondents in Table 1 above shows that eight per cent of the respondents were employed - forty-three percent in a government job and thirty-seven per cent in private job, while ten percent of the respondents were unemployed (either studying or looking out for a job) and ten per cent of the respondents had their own businesses.

Hypothesis testing

The mentioned hypotheses were tested by applying chi-squared test at 5% significance level and the results are summarized in the table below

Chi square test was adopted for the purpose of associating variables that are non- quantitative in nature like preference for teleconsultation and their demographic characteristics like gender, age, income level, nature of the organisation employed in etc.

Table 2 Chi Square association of preference for teleconsultation based on Gender of the respondents

	Value	df	Asymp. Sig. (2-sided)	Hypothesis tested
Pearson Chi-Square	17.763	2	.000	H0: There is no significant association between the gender of the respondent and his/her option for booking teleconsultation H1: There is a significant association between the gender of the respondent and his/her option for booking teleconsultation
Likelihood Ratio	18.323	2	.000	
Linear-by-Linear Association	15.037	1	.000	
N of Valid Cases	100			

(Source: Estimation based on data collected from field survey)

Table 2 above shows the association between the variables, preference of teleconsultation and gender of the respondents at 5 percent significance level. Based on the above test, it can be said that there is a significant association between gender of the respondent and their preference for medical teleconsultation and tele medicines. Hence we reject the null hypothesis. Women respondents unanimously opined that it was an easy way to seek doctor advice during such times when travel is not advised/ restricted. The reason for resorting to tele consultation and telemedicine services is because, these could provide healthcare services to those who do not have adequate access to medical services for some reason or the other This is why these are developed with

the advancement in technology as concluded by (Bashshur and Armstrong, 1976; Puskin, 1995; Sanders and Tedesco, 1993).

Table 3 Chi Square association of preference for teleconsultation based on age of the respondents

Age	Pearson Chi Square	Deg of Freedom	Asymp. Sig. (2-sided)	N of Valid Cases	Hypothesis tested
18-25	16.217*	8	0.039	93	H0: There is no significant association between the age of the respondent and his/her option for booking teleconsultation H1: There is a significant association between the age of the respondent and his/her option for booking teleconsultation
25-40	4.636*	8	.796	93	
40-55	23.472	8	0.003	93	
Above 55	16.769*	8	0.033	93	

(Source: Estimation based on data collected from field survey)

According to Pomaranik W, et al. (2021), the current pandemic of the 2019 has boosted up the utility of telemedicine, more specifically when there is an emergency and in the cases where surgery is not required. Table 3 above shows the association between the variables, preference of teleconsultation and age of the respondents at 5 percent significance level. Except in the case of respondents in the age group of 40-55, where we are unable to accept the null hypothesis and conclude that there is a significant association between the age of the respondent and his option for booking teleconsultation, in the other two age cases, where the respondents were aged between 18 and 25 and those respondents, who were above 55, were open to booking teleconsultations with their medical practitioners, we conclude that age has no significant association with their preferring for teleconsultation and therefore, we accept the null hypothesis.

Table 4 Chi Square association of preference for teleconsultation based on age of the respondents

Education level	Pearson Chi Square	Deg of Freedom	Asymp. Sig. (2-sided)	N of Valid Cases	Hypothesis tested
High Schooling Complete	19.709*	12	0.073	93	H0: There is no significant association between the level of education of the respondent and his/her option for booking teleconsultation. H1: There is a significant association between the level of education of the respondent and his/her option for booking teleconsultation.
Under Graduation Complete	9.154*	12	0.690	93	
Post-Graduation	16.271 ^a	12	0.179	93	
Professional Degrees	42.739*	12	0.000	93	

(Source: Estimation based on data collected from field survey)

Table 4 above shows the association between the variables, preference for teleconsultation and education level of the respondents at 5 percent significance level. In all the above four cases of classifying the respondents' education level, we are unable to accept the null hypothesis and conclude that there is no significant association between the level of education of the respondent and his/her option for booking teleconsultation.

Table 5 Chi Square association of preference for teleconsultation based on the type of job of the respondents

Nature of Job	Pearson Chi Square	Deg of Freedom	Asymp. Sig. (2-sided)	N Valid Cases	Hypothesis tested
Private sector Job	13.347*	12	0.344	93	H0: There is no significant association between the type of job of the respondent and his/her option for booking teleconsultation H1: There is no significant association between the type of job of the respondent and his/her option for booking teleconsultation
Government Job	3.585*	12	0.996	93	
Self Employed	11.513**a	12	0.486	93	
Unemployed	29.360*	12	0.003	93	

(Source: Estimation based on data collected from field survey)

Table 5 above shows the association between the variables, preference for teleconsultation and type of their job, they are employed in or their occupation of the respondents at 5 percent significance level. In all the above four categories, based on the type of their job or occupation of classifying the respondents' we are unable to reject the null hypothesis and conclude that there is no significant association between the level of education of the respondent and his/her option for booking teleconsultation.

According to a research conducted in India in the financial year 2020, telemedicine use grew across all age groups when compared to pre-COVID 19 levels. Despite the COVID-19 pandemic's lockdowns, telemedicine services such as teleconsultations allowed access to healthcare services

Changing dynamics of doctor-patient engagement

As the new normal comes around post-COVID-19, the patient—doctor communications through digital channels are anticipated to rise. Sixty-four percent of consumers are showing a rising willingness to adopt teleconsultation post—COVID-19. But doctors are also making an effort to reduce the non-essential visits of patients with about 80% of them being provided counsel using informal means of consultation like audio, video, texts on numerous texting and messaging apps.

Confirmatory Factor Analysis

CFA is a theoretical positive approach. Design of this tool is determined by the theoretical relationship between the observed and unobserved variables. CFA is performed to estimate the population covariance matrix that is compared to the observed covariance matrix. Technically, this study aims to minimize the difference between the estimated and observed matrices. An important part of the CFA is to test the reliability of the observed variables. In addition, this study examines the degree of interrelationships and covariance between latent structures. Before testing the structural model, we estimate the factor load, unique variance, and correction index (variables need to be omitted or paths added) to estimate the best latent variables. Derive an index.

Table 2 Factor Analysis

Factor	Variables	Factor [Text Wrapping Break] Loadings	% of variation [Text Wrapping Break] explained
Patient satisfaction	The Voice Clarity	0.87	62.56
	Video Quality of the gadget used	0.80	
	Patient’s personal comfort level to use the system	0.74	
	The time spent to get an appointment with a doctor	0.71	
	It was easy to reach the telehealth department (Circle, taxi, private, staff, CHR)	0.63	
	The time you or your family member spent with the doctor	0.54	
	The treatment was explained clearly and in a detailed manner by the telehealth staff	0.71	
	The tele health staff was handling your case with knowledge and carefully	0.73	
	The telehealth staff was friendly, courteous with you	0.52	
	You privacy was respected by the tele health personnel	0.82	
	The staff helped you with your queries about the gadget	0.51	
	Your overall experience about tele consultation and telemedicine	0.56	
Your general health	0.46	31.93	

PATIENT SATISFACTION SURVEY (USE FOR PATIENT CARE SESSIONS)	The time spent to get an appointment with a doctor	0.79
	The length of time waiting in the office at Telehealth	0.22
	The length of time with the doctor you saw	0.68
	The doctor's explanation of the patient's condition	0.65
	The doctor's explanation of the treatment	0.72
	The thoroughness, carefulness and skillfulness of the doctor consulted	0.56
	privacy was respected by the tele health personnel	0.46
	The staff handled all the queries about the gadget with knowledge and skill	0.72
	Telehealth staff was respectful and courteous	0.68
	Your experience about using telehealth	0.22
The doctor was courteous, polite and friendly	0.13	

(Source: Estimation based on data collected from field survey)

Table 2 shows the results of factor analysis for parameters leading to patient satisfaction conducted for teleconsultation and tele medicines. The factors have been broadly classified into

1. Patient satisfaction – on their session with their medical practitioners collected by the researchers – questions asked in statement form on a five point likert scale that ranges between strongly disagree and strongly agree, listed in the table above showing the CFA analysis

2. PATIENT SATISFACTION SURVEY (USE FOR PATIENT CARE SESSIONS) collected by the clinics/ app providers -- questions asked in statement form on a five point likert scale that ranges between strongly disagree and strongly agree, listed in the table above showing the CFA analysis.

The results of CFA analysis consolidated and interpreted below

1. Patient satisfaction from Teleconsultation and telemedicines, as opined by the patients post their consultation

The Voice Clarity	0.87
Video Quality of the gadget used	0.80
Patient's personal comfort level to use the system	0.74
The time spent to get an appointment with a doctor	0.71
It was easy to reach the telehealth department (Circle, taxi, private, staff, CHR)	0.63
The treatment was explained clearly and in a detailed manner by the telehealth staff	0.71
The tele health staff was handling your case with knowledge and carefully	0.73
You privacy was respected by the tele health personnel	0.82

(Source: Estimation based on data collected from field survey)

The above factors have a significant relevance on the satisfaction as expressed by the respondents who sought teleconsultations and tele medicines that prompted them to continue the same even after the lockdown curbs

were lifted. As their factor loadings are above 0.6 with a variance of 62.56% explained on the total amount of factors

PATIENT SATISFACTION SURVEY (USE FOR PATIENT CARE SESSIONS)

The time spent to get an appointment with a doctor	0.79
The length of time with the doctor you saw	0.68
The doctor's explanation of the patient's condition	0.65
The doctor's explanation of the treatment	0.72
The staff handled all the queries about the gadget with knowledge and skill	0.72
Telehealth staff was respectful and courteous	0.68

(Source: Estimation based on data collected from field survey)

The above factors have a significant relevance on the satisfaction level, as collected by after patient care as in the patient satisfaction survey collected from the respondents for after sessions by app providers and the clinics that offered teleconsultations/ tele medicines. As their factor loadings are above 0.6 with a variance of 31.93% explained on the total amount of factors

Summary and Conclusion

To summarise, it can be said that there are various factors which gave satisfaction to patients, when they consulted their doctors for various health related issues. Going forward, with the improvement in technology, this could also prove to be an effective way in addressing various health issues faced by patients. This mode of consultation saves the time spent on commuting and other aspects, which could cost the time spent by the patient. But this mode of consultation has limited scope, as certain ailments like oncological consultation or rehabilitation consultation, where without physically examining the patients, it is difficult to help the patient with medical advice and hence, this may not be effective in such cases Grigsby et al., (1995).

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A COMPARATIVE STUDY ON PERFORMANCE ANALYSIS OF SELECTED MUTUAL FUNDS SCHEME

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ABSTRACT

Infrastructural Development and awareness of mutual funds being optimum investment vehicle has led to popularity amongst the investors as the best investment avenue. The popularity is due to risk reduction, professional management, diversified portfolio, tax benefits and economies of scale. Investors, who want to reap the benefits from stock market but less aware of it, for them mutual fund is the best investment alternative. The Indian mutual fund industry's assets under management have spanned over 25 lakh crores. Different schemes which satisfy the different needs of investors are available. Various Assets Under Management Companies are launching various schemes with diversified risk. The increase in the number of schemes with enhanced utilization of funds in the past few years shows the significance of the Indian mutual funds industry. This study focused on the performance analysis of selected mutual funds scheme. The main objectives of this research work are, to analyze the risk and return analysis of selected mutual funds scheme through the statistical parameters such as Average return, standard deviation, Beta, Sharpe's ratio and Treynor's ratio for investor to invest. The outcomes of this research study will be beneficial to investors for their future investment decisions.

Keywords: *Mutual Funds, AUM, Risk, Return, Standard deviation, Beta, Sharpe's Ratio, Treynor's Ratio.*

Introduction

Mutual Fund is a trust that put together the savings of several investors who share a common financial Goal. Mutual Funds in India are Established in the form of a trust under Indian Trust Act 1882, in accordance with SEBI (Mutual Funds) Regulations, 1996. The fees and expenses charged by the mutual funds to manage a scheme are regulated and are subject to the limits specified by SEBI. It is a pool of investors' money invested according to pre-specified investment objectives. A mutual fund is an investment propeller that allows numerous investors to bring together their resources to purchase stocks, bonds, and other securities. These collective funds that are collected (referred to as Assets Under Management or AUM) then invested by by a

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mutual fund company (AMC). The joint Ownership of the fund is thus “Mutual”, i.e., the fund belongs to all investors.

Mutual Funds have become priceless instrument for a wide scope of speculators, from people looking to put something aside for retirement to refined socialites concentrated on protecting their assets and businesspeople to make wealth. Mutual fund is a trust that pools the reserve funds of various investors who share a typical monetary objective. The money is accumulated then invested in capital market instruments such as shares, debentures, and other securities. The income secured through these investments and the capital appreciations realized are shared by its shareholders in proportion the number of units owned by them. Thus, a Mutual Fund is the most suitable investment for the common man as it offers an opportunity to invest in a diversified, professionally managed basket of securities at a relatively low cost. The price of a share of the mutual fund, known as the net asset value (NAV), which is determined on day-to-day base, considering the absolute estimation of the mutual fund divided by the quantity of outstanding shares currently issued. Mutual Fund have added to the Indian economy as well as served to the retail financial specialists to accumulate wealth. This paper aims to analyse open-ended equity schemes of different Asset Management Companies namely ICICI Prudential Long Term Equity Fund-Tax saving, HDFC Mid-Cap Opportunities Fund and SBI Blue Chip Fund. Each scheme is analysed according to its performance against other, based on factors like rate of Return and Risk.

Objectives:

This study focuses on the performance evaluation of selected equity mutual fund schemes of various mutual funds functioning in India. The specific objectives of the study are as follows:

1. To Analyze the Risk and Return Analysis of selected mutual funds scheme using Mean, Standard Deviation, Beta, Sharpe's ratio and Treynor's ratio.
2. To Compare the performance of Mutual Funds Scheme to its Benchmark Index and bring out which Scheme is Higher performing or Lower performing.

Review of related Literatures

Gremillion L (2005) has given detailed information about working of mutual fund industry. It has also mentioned the different type of challenges faced by various professionals connected with this industry. The book has provided a board and comprehensive sweep of information and knowledge, which will help everybody who has serious interest in the industry. **Ferruz and Ortiz (2005)** employed factor analysis and clusters analysis to see the performance of Mutual fund. **Agarwal (2007)**, offers an outline of mutual fund

performance in emerging markets where the aim was to observe prevailing pricing structure, their size and Asset allocation. The risk-return analysis of the sector fund is the focus of **P Dhume and B. Ramesh (2011)** that evaluated the performance of the sector mutual fund in relation with the market and performance. The study concluded that all the sector funds except infrastructure sector have outward the performance of the market. **Sahil Jain, 2012 studied** equity based mutual funds in India and attempted to analyze the performance of equity based mutual funds. The analysis has been made using the risk-return relationship and Capital Asset Pricing Model (CAPM). The overall analysis finds that HDFC and ICICI have been the best performers, UTI an average performer and LIC the worst performer which gave below-expected returns on the risk-return relationship. **Dr. N.K. Sathya Pal Sharma and Ravikumar. R (2013)**, studied of the risk and return relationship of equity based mutual fund in India using CAPM model over the period April 1999 to April 2013. In this paper an attempt has been made to analyze the performance of equity based mutual funds. A total of 15 schemes offered by 2 private sector companies and 2 public sector companies, have been studied. **Sowmiya. G (Jan 2014)** studied the performance evaluation of mutual funds in India. The study aims to analyze the performance and growth of selected mutual fund schemes with their NAV and their returns. And also, the study identify the return variance to provide suggestion based on analysis. **Vibha Lamba (2014)** focused on the types and steps of portfolio management that provide the client with the greatest return and least risk for investment by the portfolio manager. **Shukla, S. (2015)** studied the performance of Selected Mutual Funds Schemes under different 5 categories and to examine the return from the above selected mutual funds. Findings of the study is that, All the funds having positive correlation with Nifty. **Dr. S. Vasantha, Uma Maheshwari and K Subhashini (2016)**, evaluated the performance of certain Open-Ended Equity-Based mutual fund in India.

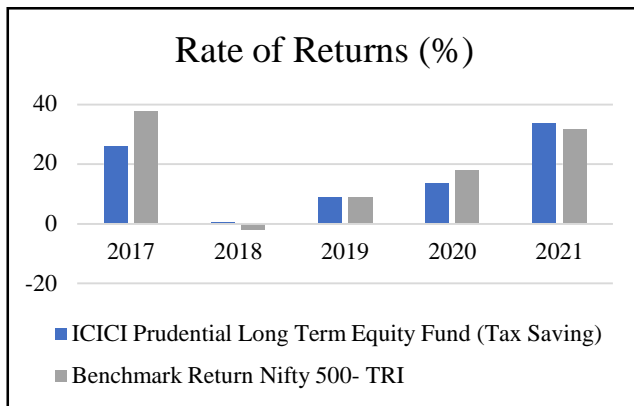
Research Methodology

Empirical Research Design is used for the study and it is essentially a fact-finding approach. The Study aims to Analyze the Selected Mutual Fund Schemes according to its performance against the other, Based on Rate of Return and Risk Analysis. This study is Based on Secondary data that has been collected from Past Records, Google, Papers, Internet and Other types of Published information as well as the Official Websites. The study covers the period of 5 years i.e., 2017 to 2021. Average Return Analysis and Risk Analysis was applied to analyze the schemes performance against the other and compare the schemes returns to its Benchmark returns.

Data analysis and interpretations

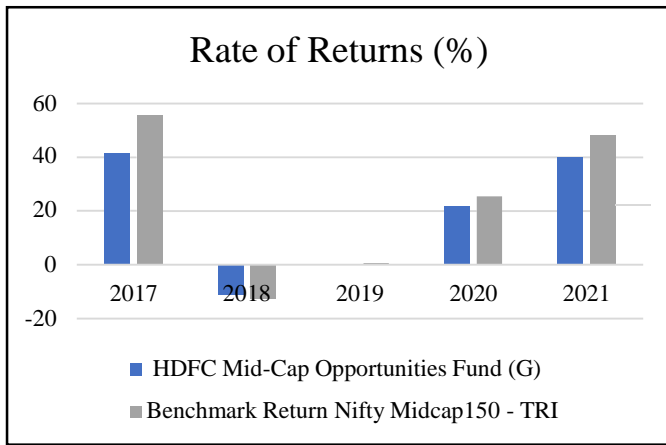
Rate of Returns of Selected Mutual Funds Scheme During 2017-2021

Scheme Name	2017	2018	2019	2020	2021
ICICI Prudential Long Term Equity Fund (Tax Saving)	26	0.5	8.81	13.6	33.73
Benchmark Return Nifty 500-TRI	37.65	-2.14	8.97	17.89	31.6



ICICI Prudential Long Term Equity Fund Tax Saving (Growth) has delivered 26% return in the year 2017, 0.5% return in 2018, 8.81% return in 2019, 13.6% return in 2020, 33.73% return in 2021. The Benchmark returns of this scheme are 37.65% in the year 2017, -2.14% in 2018, 8.97% in 2019, 17.89% in 2020, 31.6 in 2021. By this analysis we can tell that ICICI Prudential Long Term Equity Fund Scheme is providing lower returns as compared to its Benchmark Returns. The aim of this scheme is to generate long-term capital appreciation through investments made primarily in equity and equity related securities of companies.

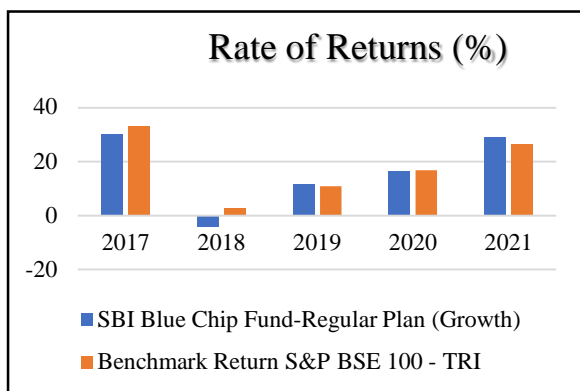
Scheme Name	2017	2018	2019	2020	2021
HDFC Mid-Cap Opportunities Fund (G)	41.66	-11.2	0.2	21.75	39.91
Benchmark Return Nifty Midcap150 – TRI	55.73	-12.62	0.62	25.56	48.16



HDFC Mid-Cap Opportunities Fund (Growth) has delivered 41.66% return in the year 2017, - 11.2% return in 2018, 0.2% return in 2019, 21.75% return in 2020, 39.91% return in 2021. The Benchmark returns of this scheme are 55.73% in the year 2017, -12.62% in 2018, 0.62% in 2019, 25.56% in 2020, 48.16% in 2021. By this analysis we can tell that HDFC Mid-Cap Opportunities Fund Scheme is providing lower returns

as compared to its Benchmark Returns. The scheme aims to provide long-term capital appreciation / income by investing predominantly in Mid-Cap companies.

Scheme Name	2017	2018	2019	2020	2021
SBI Blue Chip Fund-Regular Plan (Growth)	30.23	-4.11	11.64	16.34	29.08
Benchmark Return S&P BSE 100 - TRI	33.27	2.62	10.92	16.84	26.53



SBI Blue Chip Fund-Regular Plan (Growth) has delivered 30.23% return in the year 2017, -4.11% return in 2018, 11.64% return in 2019, 16.34% return in 2020, 29.08% return in 2021. The Benchmark returns of this scheme are 33.27% in the year 2017, 2.62% in 2018, 10.92% in 2019, 16.84% in 2020, 26.53% in 2021. By this analysis we can tell that SBI Blue Chip Fund Scheme is providing lower returns as

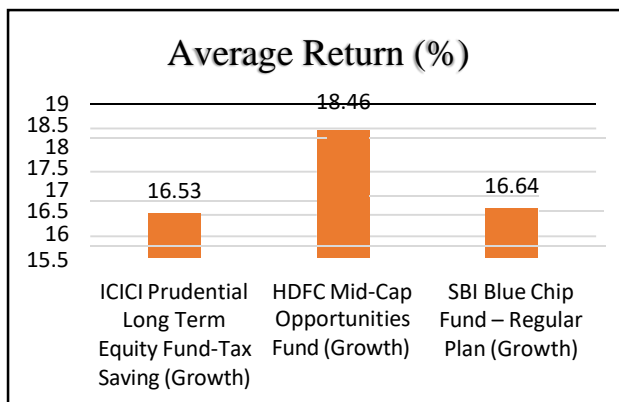
compared to its Benchmark Returns. The aim of this scheme is to provide investors with opportunities for long-term growth in capital through an active management of investments in a diversified basket of large cap equity stocks.

Calculation of Mean and Standard Deviation of ICICI Prudential Long Term Equity Fund- Tax Saving (Growth), HDFC Mid-Cap Opportunities Fund (Growth), and SBI Blue Chip Fund- Regular Plan (Growth)

Years	ICICI Prudential Long Term Equity Fund- Tax Saving	HDFC Mid-Cap Opportunities Fund (Growth)	SBI Blue Chip Fund- Regular Plan (Growth)
2017	26	41.66	30.23
2018	0.5	-11.2	-4.11
2019	8.81	0.2	11.64
2020	13.6	21.75	16.34
2021	33.73	39.91	29.08
Mean	16.528	18.464	16.636
Standard Deviation	13.33	23.57	14.10

1. Performance and Ranking of Selected Schemes on the Basis of Their Average Return Parameter During 2017-2021

Scheme Name	Average Return (%)	Ranking
ICICI Prudential Long Term Equity Fund-Tax Saving (Growth)	16.53	III
HDFC Mid-Cap Opportunities Fund (Growth)	18.46	I
SBI Blue Chip Fund – Regular Plan (Growth)	16.64	II



The Average Return is the simple mathematical average of a series of returns generated over a specified period of time. The average return can help to measure the past performance of a security or portfolio. By Observing the table and graph, ICICI Prudential Long Term Equity Fund-Tax Saving (Growth) gives 16.53% of average return in the last five years, HDFC Mid-Cap Opportunities Fund (Growth) gives 18.46% of average return in the last five

years, SBI Blue Chip Fund-Regular Plan (Growth) gives 16.64% of average return in the last five years.

By Observing the Analysis of Average Returns HDFC Mid-Cap Opportunities Fund performance is highest as compare to other Mutual Fund Schemes. It means HDFC Mutual Fund Scheme is performed best in the last couple of years and the Scheme need to provide More Long-term Capital Appreciation by Investing in Mid-Cap Companies.

From the Ranking Method, it is found that HDFC Mid-Cap Opportunities Fund stood First rank with 18.46% of Average Return, SBI Blue Chip Fund-Regular Plan (Growth) has secured Second rank with 16.64% of Average Return and ICICI Prudential Long Term Equity Fund-Tax Saving (Growth) has secured Third rank with 16.53% of Average Return.

2 Performance and Ranking of Selected Schemes on the Basis of Their Risk Parameter During 2017-2021

Scheme Name	Standard Deviation (%)	Ranking
ICICI Prudential Long Term Equity Fund-Tax Saving (Growth)	13.33	III
HDFC Mid-Cap Opportunities Fund (Growth)	23.57	I
SBI Blue Chip Fund – Regular Plan (Growth)	14.10	II

By Observing the table and graph, ICICI Prudential Long Term Equity Fund-Tax Saving (Growth) gives 13.33% of risk in the last five years, HDFC Mid-Cap Opportunities Fund (Growth) gives 23.57% of risk in the last five years, SBI Blue Chip Fund-Regular Plan (Growth) gives 14.10% of risk in the last five years.

By Observing the Analysis of Standard Deviation, the Risk in HDFC Mid-Cap Opportunities Fund (Growth) is Higher as compare to other Schemes. It means risk is higher and returns also higher in the HDFC Mid-Cap Opportunities Fund and the Scheme need to provide More Long-term Capital Appreciation by Investing in Mid-Cap Companies.

From the Ranking Method, it is found that HDFC Mid-Cap Opportunities Fund stood First rank with the highest Standard Deviation of 23.57, SBI Blue Chip Fund-Regular Plan (Growth) has secured Second rank with the Standard Deviation of 14.10 and ICICI Prudential Long Term Equity Fund- Tax Saving (Growth) has secured Third rank with the Standard Deviation of 13.33.

Calculation of Beta of ICICI Prudential Long Term Equity Fund-Tax Saving (Growth), HDFC Mid-Cap Opportunities Fund (Growth) and SBI Blue Chip Fund- Regular Plan (Growth)

Years	ICICI Prudential Long Term Equity Fund-Tax Saving	Market Return	HDFC Mid-Cap Opportunities Fund (Growth)	Market Return	SBI Blue Chip Fund-Regular Plan (Growth)	Market Return
2017	26	37.65	41.66	55.73	30.23	33.27
2018	0.5	-2.14	-11.2	-12.62	-4.11	2.62
2019	8.81	8.97	0.2	0.62	11.64	10.92
2020	13.6	17.89	21.75	25.56	16.34	16.84
2021	33.73	31.6	39.91	48.16	29.08	26.53
COV	203.22		693.15		167.13	
Variance	263.78		869.82		148.49	
Beta	0.77		0.8		1.13	

Beta Analysis of Selected Schemes During 2017-2021

Scheme Name	Beta	Ranking
ICICI Prudential Long Term Equity Fund-Tax Saving (Growth)	0.77	III
HDFC Mid-Cap Opportunities Fund (Growth)	0.80	II
SBI Blue Chip Fund – Regular Plan (Growth)	1.13	I

A Beta is a tool that measure Systematic Risk. Beta measures the expected move in a stock/ fund relative to movements in the overall market. A beta greater than 1 suggests that the stock is more volatile than the broader market, and a beta less than 1 indicates a stock with lower volatility. By Observing the table and graph, ICICI Prudential Long Term Equity Fund-Tax Saving (Growth) gives 0.77 beta value in the last five years, HDFC Mid-Cap Opportunities Fund (Growth) gives 0.80 beta value in the last five years, SBI Blue Chip Fund-Regular Plan (Growth) gives 1.13 beta value in the last five years.

By Observing the Analysis of Beta, Beta of SBI Blue Chip Fund-Regular (Growth) is Higher as compare to other Schemes, this indicates double better than its benchmark. It means SBI is providing Rs.13 excess than its benchmark returns of every Rs. 100. Greater than 1 beta value shows stock is more volatile than the broader market.

From the Ranking Method, it is found that SBI Blue Chip Fund-Regular Plan (Growth) stood First rank with the highest Beta Value of 1.13, HDFC Mid-Cap Opportunities Fund (Growth) has secured Second rank with the Beta Value of 0.80 and ICICI Prudential Long Term Equity Fund- Tax Saving (Growth) has secured Third rank with the Beta Value of 0.77.

CALCULATION OF SHARPE’S RATIO AND TREYNOR’S RATIO OF SELECTED SCHEMES

1. Calculation of Sharpe’s Ratio

$$\text{Sharpe's Index} = \frac{\text{Average Portfolio Return (Rp)} - \text{Risk free Rate of Return (Rf)}}{\text{Standard Deviation of the Portfolio Return } (\sigma_p)}$$

Risk free rate of return is 7%

Schemes	Return s	Standard Deviation	Sharpe’s ratio = $\frac{\square - \square \square}{\square \square \square \square \square \square \square \square \square \square \square \square}$	Rank
ICICI Prudential Long Term Equity Fund - Tax Saving (Growth)	16.53	13.33	$\frac{16.53-7}{13.33} = 0.71$	I
HDFC Mid-Cap Opportunities Fund (Growth)	18.46	23.57	$\frac{18.46-7}{23.57} = 0.49$	III
SBI Blue Chip Fund – Regular Plan (Growth)	16.64	14.10	$\frac{16.64-7}{14.10} = 0.68$	II

Sharpe’s ratio is the measure of risk-adjusted return of a financial portfolio. The greater a portfolio’s Sharpe ratio, the better its risk-adjusted performance. If the analysis results in a negative Sharpe ratio, it either means the risk-free rate is greater than the portfolio’s return, or the portfolio’s return is expected to be negative.

By observing this analysis, ICICI Prudential Long Term Equity Fund-Tax Saving (Growth) gives 0.71 Sharpe’s risk. That means mutual fund risk is higher than the market risk. HDFC Mid-Cap Opportunities Fund (Growth) gives 0.49 Sharpe’s risk and SBI Blue Chip Fund-Regular Plan (Growth) gives 0.68 Sharpe’s risk. That means mutual fund risk is higher than the market risk. A Sharpe ratio above 0.5 is market – beating performance if achieved over long run. A ratio of 1 is superb and difficult to achieve over long periods of time.

A ratio of 0.2-0.3 is in line with the broader market. In this analysis, the performance of ICICI Prudential Long Term Equity Fund- Tax Saving is higher than the others.

From the Ranking Method, it is found that ICICI Prudential Long Term Equity Fund- Tax Saving (Growth) stood First rank with the highest Sharpe's risk of 0.71, SBI Blue Chip Fund -Regular Plan (Growth) has secured Second rank with the 0.68 of Sharpe's risk and HDFC Mid-Cap Opportunities Fund (Growth) has secured Third rank with the Sharpe's risk of 0.49.

2. Calculation of Treynor's Ratio

$$\text{Treynor's Index} = \frac{\text{Average Portfolio Return (Rp)} - \text{Risk free Rate of Return (Rf)}}{\text{Beta of Portfolio Return } (\beta_p)}$$

Risk free rate of return is 7%

Schemes	Returns	Beta	Treynor's ratio $= \frac{\square - \square\square}{\square\square\square\square}$	Rank
ICICI Prudential Long Term Equity Fund - Tax Saving (Growth)	16.53	0.77	$\frac{16.53-7}{0.77} = 12.38$	II
HDFC Mid-Cap Opportunities Fund (Growth)	18.46	0.80	$\frac{18.46-7}{0.80} = 14.33$	I
SBI Blue Chip Fund – Regular Plan (Growth)	16.64	1.13	$\frac{16.64-7}{1.13} = 8.53$	III

Treynor's ratio is a risk/return measure that allows investors to adjust a portfolio's returns for systematic risk. A higher Treynor ratio result means a portfolio is a more suitable investment. By observing this analysis, HDFC Mid-Cap Opportunities Fund (Growth) gives 14.33 Treynor's ratio. ICICI Prudential Long Term Equity Fund-Tax Saving (Growth) gives 12.38 Treynor's ratio and SBI Blue Chip Fund -Regular Plan (Growth) gives 8.53 Treynor's ratio. In this analysis overall the performance of HDFC Mid-Cap Opportunities Fund is higher as compared to other schemes.

From the Ranking Method, it is found that HDFC Mid-Cap Opportunities Fund (Growth) stood First rank with the highest Treynor's ratio of 14.33, ICICI Prudential Long Term Equity Fund- Tax Saving (Growth) has secured Second rank with the Treynor's ratio of 12.38 and SBI Blue Chip Fund-Regular Plan (Growth) has secured Third rank with the 8.53 Treynor's ratio.

Findings

The Average Returns suggests HDFC Mid-Cap Opportunities Fund (Growth) gives 18.46% of average return in the last five years. The performance of HDFC mutual fund scheme is highest as compared to other schemes. It means Scheme needs to provide more Long-Term Capital Appreciation by investing in Mid-Cap Companies. The Standard Deviation describes Higher the Standard Deviation Higher the Risk. According to Standard Deviation HDFC Mid-Cap Opportunities Fund (Growth) gives 23.57% of risk in the last five years. The performance of HDFC Mutual Fund Scheme is higher as compared to other Schemes. It means risk is higher returns also higher and the scheme need to provide more Long-Term capital appreciation. According to Beta Analysis SBI Blue Chip Fund gives 1.13 beta value in the last five years. The performance of SBI Blue Chip Fund is highest as compared to other schemes. It means SBI is providing Rs.13 excesses than its benchmark returns of every Rs.100. According to Sharpe's measures ICICI Prudential Long Term Equity Fund-Tax saving (Growth) gives 0.71 Sharpe's risk. The performance of SBI Mid-Cap Fund is highest as compared to other schemes. It means Sharpe ratio above 0.5 is market beating performance if achieved over long run. According to Treynor's measures HDFC Mid-Cap Opportunities Fund (Growth) gives 14.33 Treynor's ratio. In this Analysis HDFC Mid-Cap Opportunities Fund performed better as compared to other schemes. It means a portfolio is a more suitable investment.

Conclusion

Mutual Fund being the most preferred investment options amongst all and plays a vital role in the nation building. The growth absolutely depends on the performance of capital market. A good market performance gives good returns and vice-versa. From this study, we can conclude that some scheme may have higher returns with the higher risk and some scheme may have moderate returns with the moderate risk and some scheme may have lower returns with the lower risk. If the Risk is higher returns also higher and if the risk is lower returns also lower. Whatever the combination, investors should invest your money in the combination of maximum return and minimum risk because safety is very important factor to secure our money.

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