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FROM THE EDITOR'S DESK

Our journal, BJMR, has been published for fourteen years at this point. Five papers in this October 2022 Volume 14 No. 2 address a wide range of management topics.

The first article in the journal is titled "A study of the investor's preference towards various forms of gold as an investment avenue with special reference to pandemic" .The current study aims at finding out the perception of investors towards different forms of gold as an investment avenue and the awareness level of investors about them. This paper also endeavours to explore various factors affecting the investor behaviors towards gold investment.

The second paper, titled " A Study of Functional Impact of Instruments of Alternative Finance towards Inclusive Growth As Well As Augmentation of Financial Markets Depth" depicts Small businesses are gradually moving towards fast growing alternative finance. Now-a-days, in terms of finance, venturists and businessman are becoming more flexible in choosing different types of funding to meet the ever-increasing demands of consumers. Alternative finance offers another channel of funding for both individuals and institutions.

This paper will endeavour to list out the various instruments of Alternative Finance which are providing depth in the financial markets. Further the research paper will try to measure the impact of microfinance in bringing a turnaround in the economic situation of the people which are at the bottom of the economic pyramid.

The third paper is titled "Neuro-Marketing: A Review of Literature." The document stipulates that Understanding the consumer has always been of paramount importance for a marketer. The new angle of analyzing the decision making process of the consumer i.e. Neuromarketing was developed in 2002 but still it is in its nascent stage. This paper is an attempt to study advantages and limitations of the approach and find a research gap. The benefits of neuromarketing are known by all. It has some limitations too which have been discussed in the paper. The major objective of neuromarketing is to understand the brain functions when the brain is exposed to certain marketing stimuli. When the marketer asks the consumer whether he likes a certain feature or not, then verbal responses may or may not be true. Although this approach can prove to be a boon for all the marketers but most of the times it has been evidenced that responses of the brain can be influenced by the way of asking questions. Despite growing popularity of Neuromarketing, the acceptance of idea by marketers is not very encouraging. A survey of 64 neuromarketing firms was done by Nielsen Consumer Neuroscience, and observed that only 31% of them were using fMRI machines which signify that still this new approach has not been accepted by all. What are the issues behind it? The paper discusses them and tries to develop an insight about this new issue.

Re-Experiencing Performance Management: Systems, Learning, and Integration is the title of the fourth article. In this concept paper, we to clarify what performance management is and how it emerged as a discipline by tracking your emergence at strategic, operational and individual levels under an integrated performance management model. Three emerging approaches to performance management are introduced as potential triggers for the emergence of this system: system thinking, learning and integration. This paper is important for both physicians and academics, as it clarifies the existing body of knowledge and provides a platform for future research.

The last paper in this edition is titled "Artificial Intelligence: A Revolutionary Catalyst in Safety Spectrum of Indian Railways". Indian railways have come a sustained approach both in terms of quality and quantity, still it continues to endure host of problems. The biggest one is the problem of safety. Indian railways have often been in the headlines for this issue. As Indian Railways continue to grow, both in terms of capacity and traffic, it continues to raise eyebrows when it comes to ensure safety.

Indian Railways have addressed safety issues in various fields for instance Auxiliary Warning system, Vigilance Control Device, GPS Trackers, GPS-based fog Pass Device, LHB coaches and such more.

To make the pace in the current competitive tech- based world and to make the stand at the local and global platform, AI is the best option out of the available ones, till another advanced innovative things steps in. Indian railways too are in speedy process of digital railways and would surely take AI as an important tool in time to come.

The entire research paper is banked upon secondary and exploratory research. It takes support of case studies and life experiences of researchers. It takes into account routine observations of the common public and their open feedback.

Human relations with technology, especially Artificial Intelligence is extremely complicated. Though there are short-terms uncertainties, but the long-term vision is very simple and clear. Hence, we must accept and adapt to AI as a new way, not only for Indian Railways, but also in other aspects of life

CERTIFICATE

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CONTENTS

A study of the investor'spreference towards various forms of gold as an investmentavenue with special reference to pandemic

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ABSTRACT: *Since ancient times, gold is treated asone of the most desirable metals in the world. It is often used as a fiat currency by many countries due to its robustness. Gold will always be valued as the most priced possession even after the downfall of a country or loss of the worth of paper money. The demand for gold varies from person to person depending on their financial goals, social beliefs and status in society. Even though gold is more popular in its physical formbut there are varied forms of gold which can be opted for investment purposes like Gold ETFs (exchange traded funds), Gold Mutual funds, Sovereign Gold Bonds etcGold has some different benefits as an investment option. In order to popularize these forms, there is an urgent need to create the awareness among the common masses.*

The current study aims at finding out the perception of investors towards different forms of gold as an investment avenue and the awareness level of investors about them.This paper also endeavours to explore various factors affecting the investor behaviors towards gold investment.

Keywords:financial goals, investment avenues, liquidity, risk, SGBs, Gold ETFs

Introduction

In India, a large number of investment alternatives are available for investors comprising of marketable, liquid, non-marketable, highly risky, riskless opportunities. People have to choose appropriate avenues, depending upon the specific need, risk appetite, and financial goals and objectives. Normally an investor reduces his current consumption and saves resources to invest in financial assets or other assets with the hope of achieving his financial goals.

Gold, a precious metal, has been preferred by the people since ancient times. Gold can be used for household purposes either in the form of coins or jewellery, or even for industrial purposes. Gold plays an important hedging tool in safeguarding against fluctuations in prices due to climatic,political, and economic factors. Gold provides liquidity, safety, as well as profitable returns. Other investible securities are extremely volatile, but gold proves to be a safe haven at the time of uncertainty. Investment in gold manages the inflationary impact and yields good returns. In India, gold is preferred in the form of jewellery and kept in safe lockers/ or cupboard and is used as a status symbol in the society. But nowadays due to awareness programme initiated by SEBI, people are realizing the worth of dematerialized form of gold as well. There are various forms of gold investment i.e., physical gold, Gold ETFs (exchange traded funds), Gold Mutual funds, Sovereign Gold Bonds etc. Though people are not aware of all the options. Gold exchange-traded funds (ETFs) and exchange-traded notes (ETNs) is a safe and productive way of investment in gold with processing fees being are low and higher liquidity. Some of the top gold ETF funds available in India are Nippon Gold ETF, SBI Gold ETF, HDFC Gold Exchange Traded Fund, UTI Gold Exchange Traded Fund, Kotak Gold ETF and Axis Gold ETF. Investors can buy gold futures contracts or invest with companies that trade gold commodities. Similarly, gold can also be traded through commodity futures which can safeguard the investors from future losses.

Thecurrent research is focused on studying the various options of gold investment, the awareness level of investors about them and the factors influencing the buying behavior of people. The study aims at finding out the perception of investors with respect to gold as an investment avenue.

Problem on Hand

There are numerous investment portfolios available to the investors. Among the investors, investment in gold is considered a safe investment because of its high pro?tability and liquidity. The foremost reason is that

like currency, Gold has an intrinsic value and has a steady purchasing power to goods and services. In the ancient times, Gold was used as currency. Even now Gold is still considered a backup for Government and Central banks. The demand for gold is very volatile and shows both increasing and decreasing trends as per the current market scenario. Hence an attempt is made to ascertain investors' perception towards gold as an investment.

Literature review

- Afees A. Salisu, Ibrahim D. Raheem, Xuan Vinh V (2021), in the study "Assessing the safe haven property of the gold market during COVID-19 pandemic" examined the safe-haven properties of gold during the uncertainty caused by COVID-19. Their results confirmed that the ability of the gold market to safe investment options during the pandemic is more than other financial assets and can be treated as the most useful hedging financial asset that protects investors' portfolios. This study further lends support to the inclusion of uncertainty within the valuation of stocks also as risk-adjusted returns to supply better forecast outcomes.
- Bishesh Thapa, Ajay Kumar Shah in their study titled "Factors Influencing Investment Decisions in gold" (Dec 2020) analyzed that the mean for liquidity in gold is highest because gold is often sold at the time of urgency and symbolises social recognition. The researchers found that the t-value of all the contextual variables affecting the investment decision in gold is critical and the coefficient of correlation of all influential variables was positively correlated and significant. Furthermore, they analyzed that liquidity need predominates investors motives for investment in gold as it can be kept as collateral while taking loans from banks, followed by the price of gold, social status and seasonal demand.
- Zaimy Johana Johan (2020), in the study titled "Investors with the Golden-i: Preference in Gold-I Investment" analyzed that the preference in gold investment (Gold-I) is highly affected by the variables- inflation and income growth and least by the rate of interest. Additionally, the study highlighted the impact of Covid-19 on the investor's behaviour towards gold which increased during this period.
- Ankit Verma, Anu Jajoo (2020), in the study titled "A comparative study of relationship of gold ETFs with Indian capital market index and exchange rate" tried to analyze the causal relationship between gold ETFs prices and the Nifty 200 Index and Exchange rate for ten years considering pandemic period as well. The Granger causality test result revealed that the Market Index returns lead to an increase in the gold price during the crisis which had no impact in the Market Index. During the COVID-19 pandemic time, with a sudden crash in the stock market, gold prices went to an all-time high price level in India as it is considered a safe asset during the emergency. The researchers concluded that gold can be considered as a tool to hedge the portfolio during a crisis though during the normal period, gold and the stock Market are indifferent as the gold operates by a different set of independent factors and principles.They analyzed that the macro factors that may impact the fluctuation of gold prices (such as Inflation, Interest Rate, Monsoon, Correlation with other asset classes, Geo-political factors, Mining production, amongst others) need to be analyzed for better empirical analysis.
- Sudindra V R, Dr. J Gajendra Naidu (2019) in the study titled "Is Sovereign Gold Bond is Better Than Other Gold Investment?" found that Sovereign Gold Bonds are better than other forms of Gold Investment. SGB is better because of its purchase price, higher holding period return, regular return purity, safety, easy exit option, capital gain indexation. Although SGBs are superior, it is advisable to invest a small proportion of one's portfolio for diversification purposes.
- Dr. Jyoti H. Lahoti (2017), in her study titled "An Analytical Study on Perception of investors towards Gold as an Investment Option", studied the investor's attitude and awareness regarding gold investment decisions and compared the demand of physical gold with the other gold investment instruments. The research also highlighted the lack of awareness about the new

trends in gold investment alternatives i.e., Gold ETF, E-Gold and Gold Funds. Due to huge gold imports the India is experiencing a deficit balance so the government should encourage means of alternate gold investment.

- Dr. R. Rupa, Dr. P. Salini (2016) in the study "A Study on Consumer's Preference Towards Gold as an Investment with Reference to Coimbatore City" found that out of various investment options available to the investors namely securities, land, bank deposits, commodities exchange and mutual funds, gold is considered the most preferred investments because of its high liquidity and profitability. The study showed that investments in gold have yielded consistent and guaranteed returns, especially in volatile times. However, the majority of the public are unaware of various alternative forms of gold investment opportunities like EFT's, gold bullion which yields high returnas compared to physical gold.
- Vinod K. Bhatnagar, Shilky Yadav and Shilpa Yadav (2015) in the study titled "Investors Psychology towards Investment in Gold" aimed to review the Investment psychology towards Gold Investment in the Gwalior region. The analysis of the study was done considering individual and family characteristics like age, gender, status, lifestyle, monthly family income compared to various factors like safety, liquidity, investment tool, risks and returns with multivariate analysis and ANOVA. The study proved that investors prefer to buy physical as compared to Gold ETF (Exchange Traded Funds). This study also evidences that investment towards various kinds of Gold is majorly influenced by the occasion and gender.
- Dr. Shefali Dani, Riddhi Ambavale, (2015) in the study "A Study of Investor's Preference and Risk & Return Analysis of Precious Metals (Gold and Silver in India)" found that among all the precious metals, gold is preferred the most. It is analyzed that the Investors generally buy gold to hedge against economic, political or social fiat currency crises (including investment market declines, burgeoning debt, currency failure, inflation, war and social unrest). They further found out the different variants of gold as an investment option in the form of coins, bars, Exchange-traded Fund, gold certificates, and derivatives.The study revealed that with the given high risks associated with capital markets, many small investors have shifted from to safer low-risk high return assets like gold and land.
- Saranya, (2014) - "A Study on Investors Attitude towards Physical Gold and E-Gold in Coimbatore City", found that most people have invested in E-gold because it is the most effective kind of investment in gold. It assures safety to the investors but the knowledge of this investment in people is moderate.
- Dr. B.S. Hundal, Dr. Saurabh Grover, and Jasleen Kaur Bhatia (Nov. - Dec. 2013) in the study "Herd Behaviour and Gold Investment: A Perceptual Study of Retail Investors"studied the perception of retail investors towards the purchase of gold in the present scenario through sample survey. The results of the correlational analysis revealed that variables like profitability, tax aversion, future prospects, the value of cash etc. motivate a retail investor to buy gold as an investment.
- Dr. Sindhu, (2013) – found out through his paper titled "A study on impact of selected factors on the price of gold" –the varied factors which affect the price of gold. During this study they analyzed the impact of the rate of exchange of USD with INR, prices of petroleum, repo rate and inflation on gold prices, separately. They mainly used multiple regression models to review the impact of these factors on gold prices. They found that gold price and dollar value share an inverse relationship; gold prices and petroleum prices share a positive correlation: gold price and repo rate are negatively correlated and there is a positive correlation in gold prices and inflation rate.
- Dr M Nishad Nawaz, Mr Sudindra V R (June 2013) in their study titled "A study on various forms of gold investment" aimed to understand the numerous investment options for investors. The study was based on both primary and secondary data. As per various studies, nearly 6,000 tons of

gold is hoarded with Indian households in various forms of jewellery. There are various options available for investment in gold like jewellery, coins, bullions, ETF, mutual funds, E-gold etc. In the research, it is found that various investors still prefer jewellery, gold coins and gold bullion bars for investment purpose and wish to invest in ETF and Futures and options which provides more profit.

- Victor Sazonov, Dmitry Nikolaev (2013), in the study "Theoretical aspects of investment demand for gold" analyzed that the increase in the price of gold especially for a long period leads to an increase in the quantity demanded for this asset by investors, other things being constant. This is caused due to price expectations and results in a positive slope. However, there can be negative slopes as well when gold is overestimated and underestimated. In their analysis, they tried to show that price expectations play a key role in the market of gold investment and directly determine investors' behaviour.
- Mukesh Kumar Mukul, Vikrant Kumar and Sougata Ray (2012), in the study titled "Gold ETF Performance: A Comparative Analysis of Monthly Returns" analyzed that gold investment gave a far better monthly return in comparison to a diversified equity fund and has performed better in terms of the portfolio performance measures. They further analyzed that the gold investment has a negative correlation with equity investment, and therefore, can act as a perfect instrument for hedging equity investment risk. A portfolio comprising of equity with a blend of gold reduces the overall risk of the portfolio. Moreover, gold may be a better choice for the investor during uncertainty. As per the study gold ETF arebetter investment opportunity considering liquidity and transactional ease.
- Prof. S.P Narang, Raman Preet Singh(2012) in the study "Causal Relationship between Gold Price and Sensex: A Study in Indian Context" aimed to review the causal relationship between Sensex and gold price. The study used the monthly data of the Federal Reserve System, Bank of India, Bombay bullion association and bse-india.com and applied Augmented Dickey-Fuller test.They found that there was an immediate correlation between stock returns and gold price from 2002 to 2007 but because of depression in the USA in 2008 and 2011 this correlation seemed to be disappearing and it had been established by using correlation and Johansen's co-integration test concluded that there was no relation between gold prices and stock returns i.e., Sensex return. The results of the Granger causality test revealed that returns of the Sensex index don't cause an increase in the gold price and a rise in gold price doesn't cause an increase in Sensex.
- Anli Suresh (2011), in his study titled "A Review on Gold Quest within the Investment Portfolio by Indian Investors", studied that Gold is an integral part of Indian society and a foundation of wealth in India as it serves a major vehicle of saving for a large number of low and middle-income households in rural and urban areas.
- Shahriar Shafiee, Erkan Topal (2010) in the study "An overview of global gold market and gold price forecasting" found that from 1833 to 1968 the gold price remained steady for almost more than one century, then it began to fluctuate. The study presented the role of important variables like oil price and inflation within the gold market. They further analyzed thatthere was a high correlation between gold and oil prices. A unit root test was applied to the long-term monthly gold price which concluded that the gold price within the long-term is nonstationary.

Research Gap

The relationship between gold and various other factors and its impact on one another has been widely investigated and documented. Bishesh Thapa, Ajay Kumar Shah (Dec 2020) studied the reasons for investment in gold whereas Dr. Shefali Dani, Riddhi Ambavale, (2015) investigated the prevalent different variants of gold investment because of the rapid expansion of non-banking finance companies (NBFCs).But very few studies have been done to find out the awareness level of general public about different

forms of Gold investmentand their buying behavior during Covid-19 pandemic. This study investigates the awareness level of investors about different forms of gold and their buying behavior during Covid-19 pandemic.

Objectives of the study

- To identify the factors influencing the investors decision in gold investment.
- To study the relationship between the impact of demographic profile of the investors on their investment decisions
- To study the awareness level of different forms of gold investments among the investors
- To study the investment pattern of gold by the customers.

Research methodology

Primary data has been collected to study the awareness level and the investment behaviour of the investors. Structured questionnaires were designed to gather required data. Convenience sampling method has been used to collect the sample size. The sample size of the respondents is 78 hailing from various regions of Maharashtra. The required responses were collected through Google forms or physical connection as per the convenience. These respondents belong to different age groups, different profession and varied ideologies. Questionnaire is filled by the respondents independently and individually so that no other factor influences their decisions

Nominal data has been represented by pie diagrams. Various other charts are being used for the data analysis and interpretation.

Data Analysis and Interpretation

Table 1

Gender	No of respondents
Male	53
Female	25
Others	0
Total	78

Fig.-1

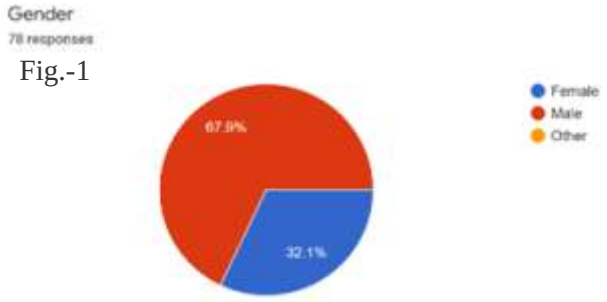


Table 2

Age	No of respondents
Below 30	56
31-40	12
41-50	5
51-60	4
Above 60	1
Total	**78**

Fig.-2

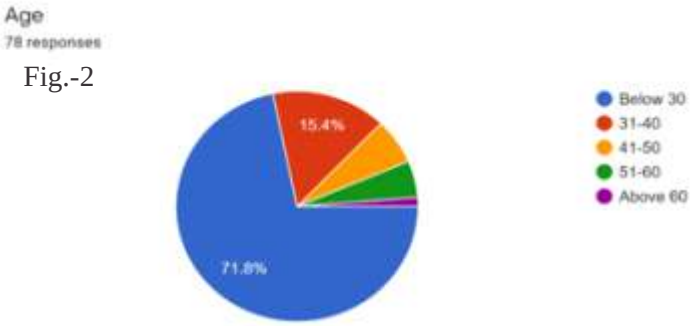


Table 3

Educational Qualification	No of respondents
Undergraduate	12
Graduate	41
Post graduate	22
Professional degree	3
Total	78

Fig.-3

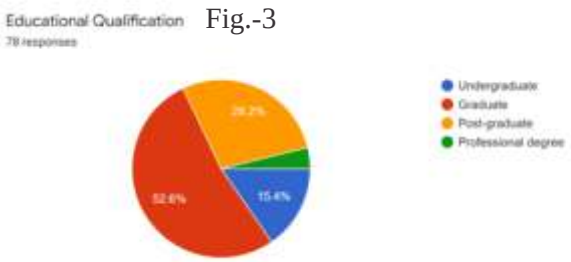


Table 4	
Marital Status	**No of respondents**
Single	54
Married	24
Total	78

Marital status
78 responses

Fig.-4

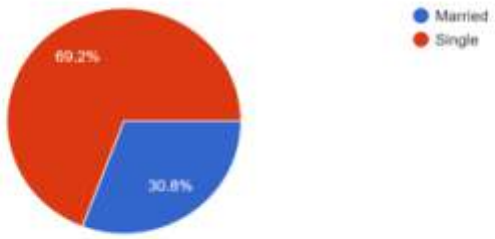


Table 5

Occupation	No of respondents
Self employed	15
Salaried	15
Business	16
Student	32
Total	78

Occupation
78 responses

Fig.- 5

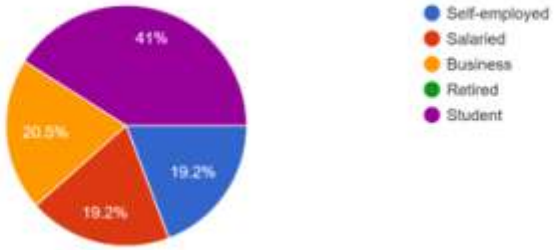


Table 6

Income	No of respondents
Upto 25,000	37
25,000-50,000	13
50,000-1,00,000	10
More than 1,00,000	18
Total	78

Income
78 responses

Fig.- 6

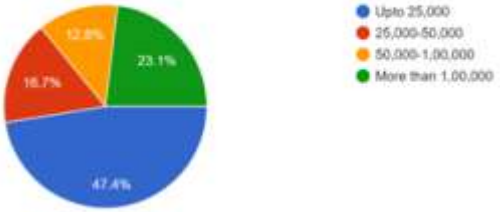
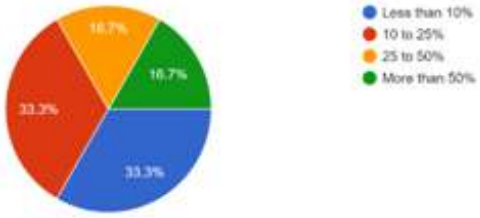


Table 7

Percentage of income invested	No of respondents
Less than 10%	26
10% to 25%	26
25% to 50%	13
More than 50%	13
Total	78

Fig.- 7

What percentage of your income do you invest?
78 responses

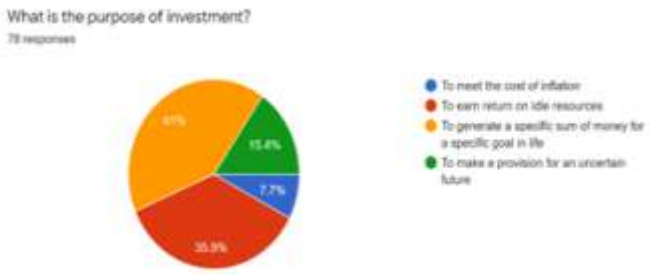


It is observed that only a few investors invest more than 50% of their income.

Table 8

Purpose of investment	No of respondents
To meet cost of inflation	6
to earn return on idle resources	28
to generate specific sum for specific goal	32
to make provision for uncertain future	12
Total	78

Fig.- 8



It can be observed that majority of the respondents invests for the generation of specified sum of money to meet a specific goal in life. Sometimes, investors are inclined towards earning returns on idle resources

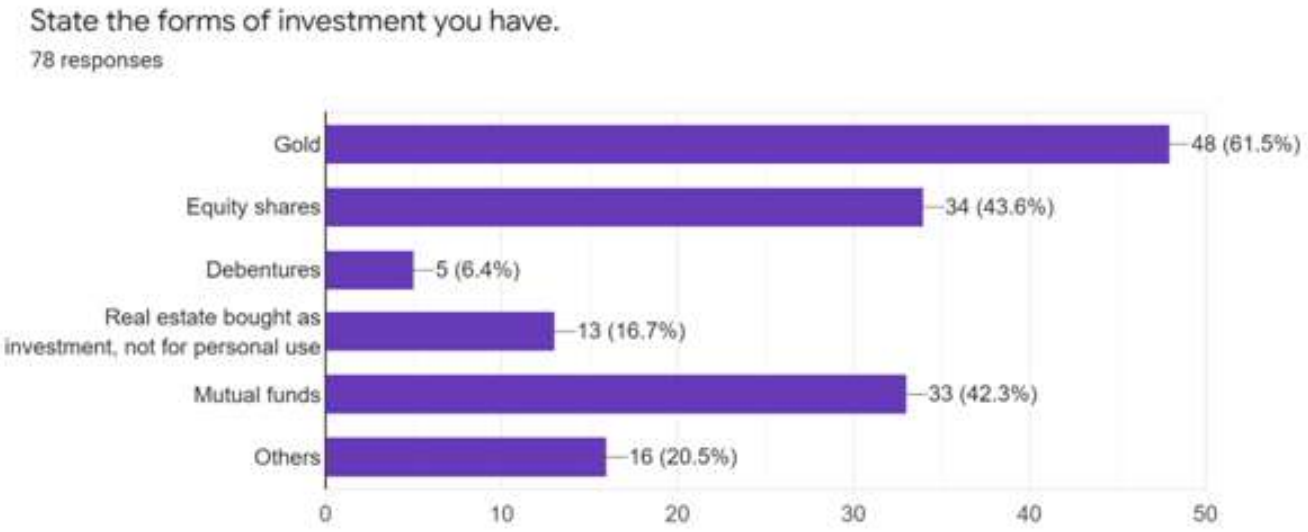
Table 9

factors considered while investing	No of respondents
High liquidity	18
low risk	29
High returns	24
Other	7
Total	78

Fig.- 9

"Based on the survey, it can be analysed that people prefers low risk, high liquidity and returns from an investment " is missing add it.

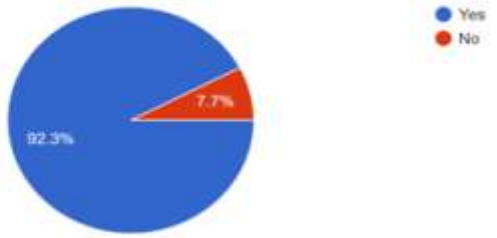
Fig.- 10



It can be observed from the above survey results, investors are more likely to invest in Gold as they consider Gold as a safer and more profitable investment than the other investments. Followed by equity shares and mutual funds which shows the growing popularity of share market among the general public.

Are you willing to invest in Gold in future? Fig.- 11

78 responses



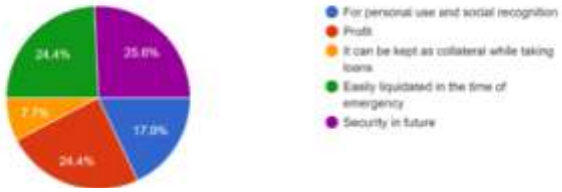
"Gold is our traditional method of doing investment for future and security. It can be seen from the above results, that people are fond of gold in today's era also. As there are almost all the respondents (92.3%) are willing to invest in Gold in future.

Table 10

What factors attract you towards gold investment	No of respondents
for personal use & social recognition	14
can be kept as collateral	6
easy liquidated at the time of emergency	19
security	20
profit	19
Total	78

What attracts you towards Gold investment? Fig.- 12

78 responses



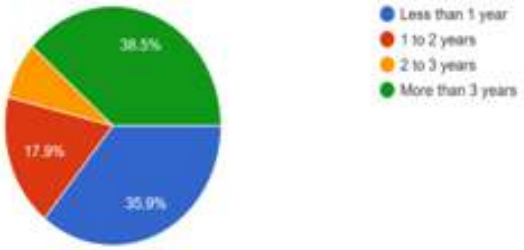
Based on the above survey, it can be seen that majority of the investors gets attracted towards Goldfor higher security and high liquidity. Some may also buy for personal consumption.

Table 11

longevity in gold investment	No of respondents
less than 1 year	28
1-2 years	14
2-3 years	6
more than 3 years	30
Total	78

For how long you are investing in Gold? Fig.- 13

78 responses



It is observed that majority of the respondents are investing in gold for more than 3 years.

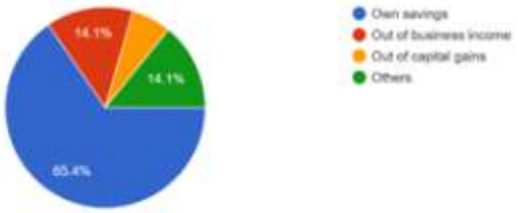
Table 12

sources utilised in gold investment	No of respondents
own savings	51
out of business income	11
out of capital gains	5
others	11
Total	78

Fig.- 14

Sources utilized for investment in Gold?

78 responses

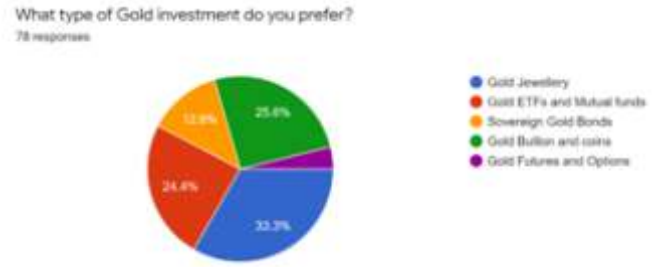


Based on the survey, it can be observed that gold is procured majorly from the savings of the respondents.

Table 13

forms of gold investment	No of respondents
Gold jewellery	26
Gold ETFs & mutual Funds	19
Soverign Gold Bonds	10
Gold bullions & coins	20
Gold futures & options	3
Total	78

Fig.- 15



It can be analysed from the results that people still prefer traditional method of investing in gold i.e., gold jewellery and bullion and coins and lacks awareness related to different form of Gold i.e., Gold ETFs.

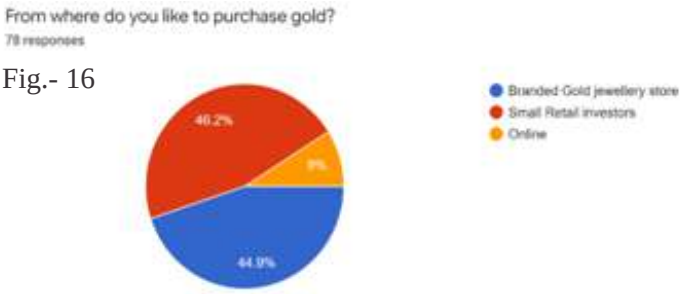


Fig.- 16

Based on the survey, it is observed that people tend to buy gold from retail investors especially branded gold jewellery store.

Table 14

Awareness level about Gold ETFs and SGBs	No of respondents
Very high	10
High	10
Moderate	40
Low	15
Very low	3
Total	78

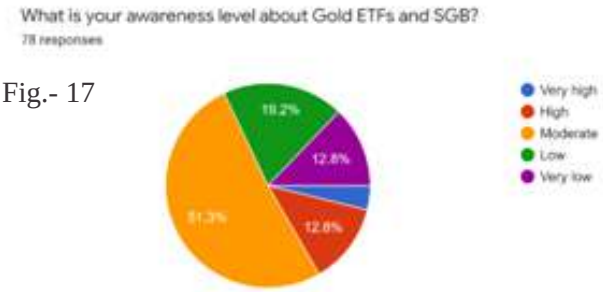


Fig.- 17

Based on the survey, it can be analysed that people lacks awareness about Gold ETFs and SGB and have only moderate knowledge about it.

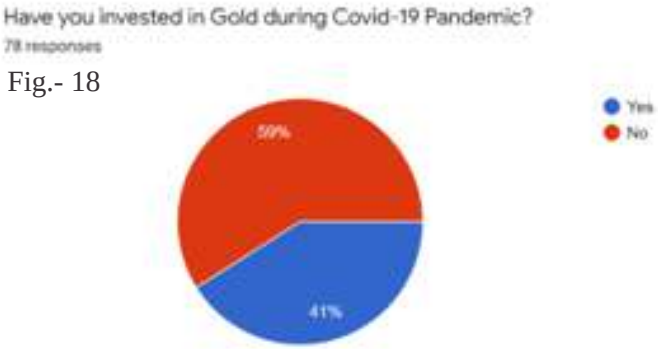
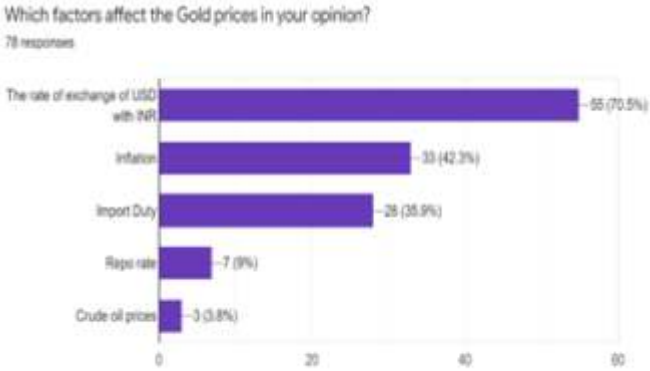


Fig.- 18

It can be observed that during pandemic also people were investing in Gold inspite of the fluctuations in the market.

Fig.- 19



Based on the survey, it can be observed that the people considerexchange rate as the determining factor for the fluctuation in the gold prices most. So, they invest and trade in the capital market accordingly.

Interpretation of results

The research was based on the investor's responses and their perception. From the analysis of the data, it can be inferred that Gold is a preferred investment mode as compared to other options, especially physical gold due to various factors like high liquidity and low risk,etc. InIndia, gold is also purchased during festivals as a symbol of social recognition and beliefs. For some people, possession of gold infuses a sense of security to

the owners. It has also been witnessed that over a periodgold rates have increased exorbitantly and there is no devaluation in the gold value either with time or any other reason. According to the viewpoint of some investors gold prices are greatly affected by the exchange rates. Thoughgold can also be purchased in demat form i.e., Gold ETFs, SGBs but due to lack of awareness it is popular among only few people. Overall, it can be concluded that gold is preferred by investors than any other form.

Conclusion

Though there are various investment options available to the investors namely securities, real estate, bank deposits, commodity exchange and mutual funds, gold has been considered as the most preferred investments due to its high liquidity and profitability. Investors are now looking beyond gold as merely a commodity for consumption and are realizing its worth as an investment avenue too. Investments in gold have generatedconstant and guaranteed returns, exclusively in volatile times. The upsurge of India as an economic power will continue to have gold at its core even though, the public are not aware of several forms of gold investment avenuesi.e. gold accounts, ETF's, gold bullion which produces a high amount of return as compared to that of physical gold. To popularize among the masses, awareness of these alternative avenues should be created. Apart from the popularity of Gold, it is observed from the study that Equity shares and Mutual Funds are gaining popularity in India which increased during Covid 19-pandemic. During the pandemic even though the stock market crashed but it boomed back in a very short while which attracted the investors towards it. But inspite of the higher yields of the securities,demand for gold can never diminish from the heart of the Indians. The specific characteristics of high liquidity, low risk and long-termsecurity makes it a preferable investment for the investors inspite of its ever surging prices. In India awareness about e-gold is very moderate, hence, steps should be taken to initiate investor awareness programs to popularize the advantages of e-gold rather than physical gold.

Limitation of the study

The present study is exclusively based on the perception of an investor and does not elucidate about investors real portfolio decision. The sample size is confined to only 78 individuals mainly comprising youngsters. Personal bias involved in respondent's answers becomes the foremost obstacle in finding the true information.

Scope for future study

Considering the vastness of the topic, a more detailed and exhaustive research comprising of more respondents can be undertaken.

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A Study of Functional Impact of Instruments of Alternative Finance towards Inclusive Growth As Well As Augmentation of Financial Markets Depth

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Abstract: In the modern era of economic development which started post World War II whereby countries stressed on framing fiscal policies to achieve rapid Gross Domestic Product (GDP) growth and large-scale employment generation. The impact of these policies resulted in creation of tremendous economic wealth. In the present times, the global GDP figures (in the pre pandemic year) as per IMF World Economic Outlook (December 2019) stand at $ 88.51 trillion while as per data available combined GDP of countries were less than $ 500 billion in early 1940s. It is evident that GDP growth across globe has increased manifold. The tremendous increase in the wealth of the economies has created need of newer and innovative financial instrument that are capable of channelizing the savings to the entrepreneurs seeking these funds. The existing set of instruments were not sufficient to cater to the need of ever- growing requirement of credit as well as investors wanting to invest the surplus in expectation of higher returns. This gap has been filled up by the emergence of newer set of financial instruments bundled together as Alternative Finance.

Small businesses are gradually moving towards fast growing alternative finance. Now-a-days, in terms of finance, venturists and businessman are becoming more flexible in choosing different types of funding to meet the ever-increasing demands of consumers. Alternative finance offers another channel of funding for both individuals and institutions.

This paper will endeavour to list out the various instruments of Alternative Finance which are providing depth in the financial markets. Further the research paper will try to measure the impact of microfinance in bringing a turnaround in the economic situation of the people which are at the bottom of the economic pyramid.

Keywords: Alternative Finance, Inclusive Growth, Financial Markets, Market Depth, Financial Instruments

[1] Financial Markets: Genesis and Evolution of Instruments

As a general human tendency, certain quantity of surpluses generated out of agricultural or other economic activities are reserved for future consumption be it physical commodities or financial resources. The practice of storing commodities like food grains, metals, utensils and others can be traced back on the timeline to pre-civilization era. As per Anthropological evidence, food-storage was an essential commodity of storage even around 11,300 -11,175 Cal B.P. in the Dead Sea region of current Jordan (Anthropology, n.d.). The progression of human civilization, the commodities like gold, silver, coins and other valuables were stored (Live Science, n.d.). The evidence from major world civilizations has shown that elementary trade and commerce were practiced. The modern age trade & commerce has seen transgression of monetary economics from metal based to paper-based transactions. The circulation of paper currency necessitated formation of specialized institutions for handling printing, distribution and management of currencies. This further led to the emergence of modern banking system.

Historically the chief function of banking system was to provide deposits, loan & currency exchange services. Gradually, banking system expanded and diversified and contributed substantially to the global economic progression. There is evidence that around 3900 B.C., Egypt adopted a banking service utilizing cows as units of exchange. (Thai Bank, n.d.)

Notwithstanding the origin of banks, in concurrent times they are an important financial institution which are linking the economies of the world together. Historically, banks functioned to provide loans, deposits and exchange services. The origin of formal banking

channels dates to fourteenth century when the bank of Barcelona was founded in 1400 (Chest of Books, n.d.) and bank of Genoa in 1408. (The Worlds first Modern, Public Bank, n.d.)

Subsequently, commercial banking got established however with the formation of Bank of Amsterdam in 1609 (Britannica, 2006) banking operations expanded rapidly and newer instruments were incorporated like transfer of funds, discounting of bills, payment upon the account holder's request, extensive services to traders and many more. The expansion of banking industry led to mobilization of large sums of deposits by those having surplus of funds. However, there was a challenge in reaching out to those needing these funds. This gap was filled by the establishment of financial systems which promoted the process of capital formation by bringing together the supply of savings and the demand for investible funds (Khan, 2007). The emergence of financial system led to the formulation of 'code of conduct' thereby facilitating uninterrupted supply of funds to the budding entrepreneurs and industrialists. The equilibrium between the demand and supply of the funds was achieved by adjusting the prevailing rate of interest which is still in practice by all central bankers globally.

The availability of capital to the entrepreneurs acted as a catalyst in the process of rapid industrialization. In the post-independence era, the growth of savings in India also witnessed the contagion effect. The historical data of savings in India reveals that the saving rate for nearly a decade or so has remained closer to 30 percent of GDP (RBI Report, 2012) as compared to the world average which hovers around 22-24 percent (World Bank National Account Data, n.d.) Considering the gap of 6-8 percent between the saving rates of India and the world, it can be generically said that tendency to save among Indians (both domestic and corporates) are on a higher plane.

Johson Steve (Asians Save But Latin American Spend, 2016) has mentioned people in emerging Asia typically saved 41.5 percent of their income last year. In support of his views, the author has further said that,"As an Indian, when you grow up in a scarce resource economy you learn to preserve resources and save" (Chadha), As per the world bank report (Savings and Investment in an Interdependent world, 2016), savings in the developing regions have risen sharply. Further the report says that there is a broad consesus that economic growth, demographic transition, and certain structural variables such as financial sector development affect saving. The relationship of saving rate and per capita income growth is found to be positive. For each 10 percent increase in the rate of growth of per capita income, the national saving rate rises 0.5–1.0 percent. This fairly strong relationship goes some way towards explaining why—over the past decade during which developing countries have enjoyed robust per capita income growth—saving rates in many developing countries have also moved upward.

The studies conducted as stated above manifests that there exists a very strong co-relation between the income level and savings.

In India, the households undertake savings in the form of currency, bank deposits, shares, debentures, life insurance, provident and pension funds and others. Physical savings mainly remain in the form of precious metal, gems & jewellery, shops, flats & houses. Data indicates that the trend in India is slowly moving towards financial assets as compared to physical assets. The reason being the fact that in the initial period post-independence Indian financial markets had underdeveloped capital and money markets. The share of financial savings in the total household savings was only 0.6 percent of GDP and bulk of the savings were undertaken in the form of physical assets. The situation changed by 1980-81, accordingly the financial savings in the household segment as a proportion of total savings accounted for 43.5 percent. This phenomenal increase could have been possible due to large scale expansion of banking in rural areas after bank nationalization and even a larger increase in the employees in the organizedlabour market contributing to provident and pension funds. The mobilization of rural savings by the Life Insurance Corporation and other Non-Banking Financial Companies added to the growth of financial savings. The governments not only supported development of capital market but also started regulating it. The net outcome of government's these efforts coupled with initiating financial education resulted in increasing household's participation in equity shares and debentures (Mahajan, 2014).

The growth of financial markets in India necessitated availability of wide variety of financial products to cater to the requirement of diversity in the demand of financial instruments. The demand of financial products was dissimilar for large population living in rural areas as compared to the urban citizens. The differences in socio-economic and cultural traits of people in the country forced the financial institutions to design their financial products that are appropriate to the demand of the society.

2. Hybridization of Financial Instruments with Societal Framework

In the previous section, it has been argued that the savings rate (as an independent variable) impacts the demand of multiple varieties of financial products. The multitudes of financial instruments cater to the needs of different group of people with divergent investment objectives. The more is variety in financial instruments the higher will be the volume of investments by households and corporates. The savings and investment cycles lead to creation of liquidity in financial markets. Financial markets are a part of financial system which itself is set of inter-connected and inter-dependent institutions working under the common code of conduct. The financial system is characterized by presence of regulator(s) shouldering the responsibility of formulation of code of conduct for financial transactions to happen in the financial markets. The clearly laid down code of conduct by the regulator ensures transparency in the financial system which leads building of trust in the trading of funds facilitating credit expansion.

According to RBI Report (RBI, 2007), credit markets have, historically, played a crucial role in sustaining growth in almost all countries, including advanced countries, which now have fully developed capital markets. Credit markets (Debt markets) perform the critical function of intermediation of funds between savers and investors and improve the allocative efficiency of resources. Banks, which are major players in the credit market, play an important role in providing various financial services and products, including hedging of risks. Credit markets also play a key role in the monetary transmission mechanism. The large number of instruments available in the financial markets had consequential effect and industries started expanding. The banking network and industrial development shares a structural relationship with each other. The amount of credit that the banking sector provides not only leads to significant financial development but also helps in promotion of inclusive growth. The tremendous growth witnessed by the commercial banking pushed into the role of a regulator and the intermediaries (Cetorelli, Nicola; Gambera, Michele, 2000).

In line with the Reserve Bank of India's statements and the research paper published by Cetorelliet el, financial system leads the economic growth and prosperity which further created space for finding out methods of distribution of the economic progress among the society at large. This indirectly pushed forward the underlined need of a mechanism through which shares of the organization can change hands.

RBI statements and the mentioned research paperscan be summarized as 'proper regulation and support, credit markets impacted positively economic growth of the country.'

The regulatory framework in India has always been robust and ensured the liquidity as well as reasonable degree of stability in the key credit rates for almost nearly past two decades. The equilibrium between the demand and supply of money has been a key priority for RBI and the same follows the dotted principles of the 'Liquidity Preference Theory of Interest' as propounded by John Maynard Keynes.

The Keynesian theory defines the rate of interest as the reward for parting with liquidity for a specified period of time. According to him, the rate of interest is determined by the demand for and supply of money. The theory states that liquidity preference means the desire of the public to hold cash. According to Keynes, there are three motives behind the desire of the public to hold liquid cash: (1) the transaction motive, (2) the precautionary motive, and (3) the speculative motive.

The theory highlights that the transaction motive is primarily for current expenditure and the precautionary motive is to meet unforeseen contingencies or to gain from unexpected deals. The speculative motive is to hold the financial resources in liquid form to take advantages of future changes in the rate of interest or specifically bond prices.

The speculative motive is the postponement of temporary consumptions for future gains by investing the savings in instruments which are highly sensitive to interest rate changes, is the central point of the Keynesian theory. However, the financial market under the societal influence has undergone sea change since the Keynesian era and plethora of financial instruments have been developed and floated. These instruments have emerged because of the socio-economic and cultural needs of the society. To cite an example, 'Interest free Banking' which prohibits dealing in interest based on the principles of 'Sharia' has become popular in dozens of countries. The society in this case is influencing development of financial instruments based upon the need of the society.

Another example can be disbursal of loan of small amounts (microcredit) without any collateral to large deciles of population at the bottom of economic pyramid through the branch network of Grameen bank in Bangladesh. This credit lending model was very much needed considering the socio-economic conditions of the masses in the region and microfinance brought a turnaround in the lives of millions of people hence it has become an instrument of development than only a mere financial instrument.

On the similar lines' other forms of microfinance like micro-savings and micro insurance also came into existence as a financial instrument in the financial markets. Few of these instruments are Pradhan MantriJhanDhanYojna (PMJDY), Pradhan MantriJeevan Jyoti BimaYojana (PMJJBY), PradhanMantriSurakshaBimaYojana (PMSBY). The societal need has also led to the development of the financial instruments like Atal Pension Yojana (APY) and SukanyaSamruddhiYojana (SSY). In the broader perspective socio-economic condition and prevailing culture have high influence on the development of financial products.The societal changes are always dynamic in nature hence there will be continuous demand of newer and newer financial instruments. It means that evolution of financial products will always be a perpetual phenomenon. Now-a-days, there are financial products which are totally innovative in nature combining the features of different class of instruments. They are called as amalgamated or structured financial instruments. A typical example of structured products can be Unit Linked Investment Plans (ULIPs). The development of these innovative and financially engineered products on one hand have enhanced the outreach of financial products among potential investors and on the other hand it has made the financial system highly complex. The process of hybridization based upon societal need and financial engineering has created such a wide range of financial products that they cannot be classified into simple debt and equity products.

[3] Instruments of Alternative Finance enhancing the depth of the financial markets

The financial products can be broadly classified into three categories – Traditional, Alternate and Alternative Financial products. Traditional Financial products include all those products which principally has its origin in the banks or corporations. Few of these products are Bank Deposits inclusive of Fixed Deposits, Recurring Deposits, Saving Accounts, Current Accounts etc. Other traditional products are equity shares, preference shares, bonus shares and other similar products. It also includes all debt products like Bonds, debentures, term loans and others (Sinha and Agarwal, 2017).Alternative finance refers to all forms of financing mechanism that was innovated outside the traditional banking channels. Several alternative channels of financing have been growing exponentially and have started acting as a tool for achieving greater financial inclusion of masses who all are at the bottom of the pyramid. Alternative finance is helping micro and small business owners by offering them avenues of finance. Various Community-based Development Financial Institutions (CDFI) like Islamic finance, Self Help Groups (SHGs), peer-to-peer lending, crowd funding etc. The rapid growth of this hitherto un-chartered territory has sprung many new opportunities simultaneously it has thrown challenges as well.

This form of finance is burgeoning and hence there is a compelling need to understand the structural aspects, value driven characteristics and the future dynamics. The below paragraphs present important aspects of common channels of Alternative Finance:

Islamic banking and finance: It follow the tenets laid down in 'Shariah' as its underlying principles and Sunna as its guiding principles. Islamic banking and finance are also known as interest free banking and finance. It refers to financial system of banking or banking activity that is

compliant with principles of 'Shariah' known as 'Fiqh al-Muamalat' (Islamic rulings) and its practical application through the development of Islamic economics and overall objective of welfare of the community.

Microfinance literally means funds which is in very smaller sums of money hence the word 'micro' is used to denote these small capitals. Microfinance as a tool of alternative finance can broadly be understood as instruments that can bring financial inclusion. Microfinance includes Micro-credit, Micro-insurance and Micro-savings.

Microcredit essentially refers to provision of credit to borrowers in small amounts. Microcredit as tool of development has been highly successful in Bangladesh through the Grameen Bank. In this model, credit in smaller amounts is provided to smaller groups which are called as Joint Liability Groups (JLGs). It is an instrument of financial inclusion for SMEs, unemployed, marginal or poor farmers who are not aware or covered by adequate banking system because of no-collateral and credit rating from any recognized institute. Almost all Micro Finance Institutions are operating in field of micro-credit.

Micro-insurance is a combination of two words – micro and insurance. Insurance refers to a contract in which insurer pays a pre-determined compensation to the insured for financial damages that has been covered in the contract in exchange of premium paid by the insured. Micro can be understood in two ways - the amount of premium paid is smaller or the pre-determined compensation is smaller. To sum up, micro-insurance refers to provision of insurance service aimed to provide social security to low-income people at low premium payments and designed to suit requirements of poor people who otherwise are not covered by regular insurance schemes. According to ILO, it is an element of social protection. It is referred to as a tool in a collective toolbox to help provide social protection to the poor. Few of these schemes are Pradhan MantriJeevan Jyoti BimaYojana, Pradhan MantriSurakshaBimaYojana.

Micro-saving refers to saving in smaller denominations by low-income individuals and families. It gives an opportunity of opening bank account to every citizen with zero account balance. It ensures access to various financial services like availability of saving bank a/c, access to need based credit, remittances facility, insurance and pension. Pradhan Mantri Jan DhanYojana is an example of micro-saving account and is promoting banking inclusion in the country.

Innovative Microfinance Business Model: Greenfield Microfinance

There are Microfinance Institutions operating in sub-Saharan belt in Africa that have developed a business model for lending activities. The model is designed to enhance the services provided by MFIs to the low-income people of the society and small-scale entrepreneurs. The business model operates by funneling the capital from foreign owned holding companies or networks to the entrepreneurs or the low-income people. These institutions provide initial capital, expertise, common branding, and standard policies and operating procedures. The growth of greenfield microfinance has grown considerably in past few years. Few of these greenfield MFIs are AccessBank, Advans, FINCA and MicroCred in countries such as Cameroon, Democratic republic of Congo, Madagascar and Tanzania.

[4] Enhancement of Depth of Financial Markets through Government backed instruments

India was facing many challenges in the years of post-independence and most notable among them was attaining the objective of Inclusive growth and reducing economic and Social Disparity. Father of nation understood this long ago and his paradigm of society is governed by principles of Interdependence, complementarity, consensus, and Inclusiveness. Only inclusive growth will lead to sustainable development and the context of Sarvodaya and Antodaya implies welfare of all.

Government of India has taken several steps for the achievement of inclusive growth for its citizens. Many such programs were initiated from time to time in the past and the current government under the slogan of "SabkaSaathSabkaVikas" which means Collective Efforts and Inclusive Growth has launched many schemes. Few of them are:

Pradhan Mantri Jan Dhan Yojna

It aims to open account of every citizen and give financial services with a zero account balance. It is ensuring access to various financial services like availability of saving bank a/c, access to need based credit, remittances facility and insurance and pension. Few special features are:

- Interest on deposits
- Zero balance
- Accidental cover of Rs.1 lakh
- No minimum balance
- Life Insurance cover
- Easy transfer of money across India
- Access of Pension and Insurance Products
- Rupay debit card
- Overdraft facility of Rs.5000 maximum available only one account per household

Sukhanya Samrudi Account

The objective behind this initiative is to address the gender imbalance and create positive environment in favour of girl child. It is part of "BetiBachao-BetiPadhaoAbhiyan."

MUDRA **(Micro Units Development and Refinance Agency Bank)** Bank Yojana It has an objective of encouraging entrepreneurs and small business units to expand their capabilities and to reduce over indebtedness. This bank promise to act as both developmental and refinance agency. It was set up on 8th April, 2015 with a corpus of Rs 20000 crores and credit guarantee corpus of Rs 3000 crore. Banks offers the following schemes:

- o Shishu: for the starters; covers loan up to Rs 50 thousand
- o Kishore: for mid stage finance seekers; loan above Rs.50 thousand and up to Rs 5 lakhs
- o Tarun: for growth seekers; covers loan above Rs 6 lakhs and up to Rs 10 lakhs.

Pradhan Mantri Jeevan Jyoti Bima Yojna

It is government backed life insurance scheme and is available for people between Age limit of 8 to 50 years. The annual premium is Rs.330 per year and has life coverage of Rs.200000.

Pradhan Mantri Suraksha Bima Yojna

It is government backed insurance scheme and is available for people between the age limit of 18 to 70 years. The annual premium is Rs.12 per year. This scheme has coverage of two types:

- o Accidental death and full disability of Rs.200000
- o Partial disability of Rs.100000

Atal Pension Scheme

It is a pension scheme which is targeted for workers in the unorganised sector. This scheme is available for the works between the age limit of 18 to 40 years. Depending on the contribution, the beneficiary will get guaranteed pension between Rs 1000 to Rs 5000 per month after the age of 60 years. Government will contribute 50% of total contribution or Rs 1000 whichever is lower.

Digital Platforms of Alternative Finance

Digital platform of alternative finance is emerging as an additional channel of credit lending. The operations are carried out through online mode and have wide potential to provide funds to entrepreneurs. Credit disbursal happens at high speed because in online mode, the processing time can be reduced by faster and swift processing of digital information. The pace of transactions is its biggest advantage while in the traditional finance route it will take days or even months for disbursal of funds. The second advantage is ease of online lending. Digital platforms that are most used now-a-days are crown funding and peer-to-peer lending.

Peer to Peer lending (P2PL) : It is also one of the digital platforms of financial community that connects borrowers and investors at a lower OPEX (operating expenditure /cost). P2PL enables the borrowers to procure funds from an intermediary who may have their own source of funds. Few of these platforms are - Ratesetter, Zopa, Funding Circle. The mechanism of operations involves 3 parties, the intermediary, the borrower and group of people who are lenders to the intermediary. The borrower's approach with their business plans to the intermediary and if the intermediary

is sure about the feasibility of the plan they provide funds.

There are more alternative finance instruments beyond the ones discussed in above paragraphs and more instruments will emerge in future based upon societal requirement and feasibility. In the days to come, alternative finance channels will be highly dependent on technological support that it will require to cater to needs of ever-increasing demand of funds. The future landscape of alternative finance may be a zone of intersection whereby both alternative finance channels and fintech will operate in unison.

[5] Digital Platform of Financing in the Domain of Alternative Finance

RBI continuously introduces newer avenues of raising funds. The objective of RBI towards strengthening Credit Delivery mechanism is the promotion of for 'Financial Inclusion' further progressing towards 'Inclusive Growth'. There are many instruments of inclusive growth already floated by RBI like SFBs, NABARD, Regional Rural Banks and others.

Digital platforms of Alternative Finance are growing at a rapid pace and helping in strengthening the credit delivery mechanism prevalent in the country. Few of these platforms are:

Crowd funding is one of the most popular online lending platforms. It is also known as crowd investing. The origin remains crowdsourcing wherein funds are mobilized through online platforms. In this process investors are brought together with those people and institutions who need funds.

Crowdfunding operates in any of the methods:

Participatory crowdfunding: It is a form of equity capital investment. This form is a variation of venture capital funding and fund mobilisation happens for the start-ups or expansion or diversification of the SMEs. The investors and fund seekers are brought together through digital platforms involving low transactional costs coupled with easy regulations. Equity crowdfunding is a system to enable a major group of investors to provide financial support to a start-up company and small businesses with an intention of equity. Investors give funds to lender companies and get the share in the ownership of the business. If the business grows, then its value increases and also share in the company also grows

Debt-based crowdfunding: Debt model of crowdfunding is also known as peer to peer (P2P) or marketplace debt or crowdlending. In this model the investors invest in the security of the company intending to give loan to the company with fixed repayment period and assured rate of interest as agreed. Zopa (2005) in the UK is considered as the pioneer in Debt-based crowdfunding. Few other models are LendingClub, Propser.com.

Donation based: In this model of crowdfunding, the investments are not for returns rather the investor's sole purpose is to help society and philanthropy. There are digital charity platforms. This is the second as the most used form of crowdfunding. Milaap foundation, through crowdfunding, raised funds to help the families of brave martyr soldiers of Pulwama attack. This foundation also raised funds for the rehabilitation after the extremely severe cyclone Fani in Odisha.

Crowdfunding in India

In India, crowdfunding platforms are increasing in the donation-based models. The funds are raised for various causes like medical emergencies, NGOs, Social Enterprises with the generosity of thousands of people through online mode. Crowdfunding platforms in India are slowly increasing their area of operation. Popular fundraising platforms in India are BitGiving, Catapooolt, Crowdera, DreamWallets, Faircent, FuelADream, FundDreamsIndia, Ignite Talents, Impact Guru, Ketto, Milaap, RangDe, Start51. The platforms operating in India provide fundraising services for vivid domains like SMEs/ MSMEs, Societal needs, art & craft, fine arts, sports, music, dance and other cultural activities and many more.

In India, 'RangDe' is established in the year 2008 for providing the platform for crowdfunding. 93% of borrowers from this platform are women. The number of rural women entrepreneurs across India had been supported through this micro-lending platform by startup viz. beauty parlour, school, animal rearing, dairy products, textile business etc.

The biggest player in the crowdfunding market in India is 'Milaap'. They have raised over US$12.7 million through donations and micro finances. The beneficiaries of the

low-cost loans are rural India and underprivileged parts of the society. In 2019, 'Milaap' raised funds for supporting the families of brave martyr soldiers of Pulwama attack. 44 brave soldiers lost their lives due to the brutal terrorist attack on 14th February 2019.

Fundraising platform works on two models. First, 'Flexible funding model' where fundraiser gets to keep whatever amount they have raised. The second model is 'The all or nothing'. In this model, the fundraiser gets to keep the funds only if the goal has been achieved. Donations are given under Crowdfunding get tax benefit under Section 80G.

Selected Indian Entrepreneurial Ventures tryst with Digital platforms

a) Flipkart: e-commerce website

b) InMobi: global mobile ad & tech platform. Other platforms supported by InMobipromotors are NestAway, SlideRule, Metti, MoneySights, Bombay Canteen, Zimmber, Razorpay .

c) OLA cabs:

d) Snapdeal

d) Zomato

e) OYO rooms

Peer to Peer lending (P2PL): P2PL is a digital platform of alternative finance which thrives primarily on individual based lending activities. This is a system in which individuals or business institutions are funded by using online digital platforms. The process used the stock exchange mechanism of anonymous order matching servers. The borrowers get the funds at relatively lower interest rates and not much of paper work. However, most of the P2P lending fall under the category of unsecured loans as no collateral is needed for the disbursal of the funds. Hence, the default risk remain high in this form of lending. The P2P lenders disclose their rate of interest on the websites and they remain at with the market rates. There is no credit rating carried out before the disbursal.

The gamut of online services offered by lenders are:

a) Website of the Lender for visibility and declarations as well their advertising

b) Special purpose vehicle for the customization of the credit disbursal detailing

c) KYC / Verification of the credentials of the company by documents like Salary Slips, Balance Sheets, P&L statements, IT Return documents etc

d) Borrowers assessment with respect of need of funds and probability of default.

e) Finalization of the documents and repayment mechanism

Few of the P2PL entities are Zopa, P2P lending company established in 2004, Lendbox, Zidisha, Wokai, Vittana, United Prosperity (organization), MYC4, Milaap, Microplace, Lendwith care, Lend for Peace

At present the P2PL platforms are out of the purview of RBI regulations however there will be proper regulation of these entities in the days to come.

Newer Vista of Alternative Finance instruments: Cryptocurrencies.

Future emerging vistas Cryptocurrency- Digital currency covers a larger group that represents monetary assets in digital form. It can be regulated or unregulated. Virtual currency is the larger umbrella term for all forms of non – fiat currency being traded online. They are mostly crated, distributed and accepted in local virtual networks. It is currency held within the blockchain network and is not controlled by a centralized banking authority. However, cryptocurrencies are not totally regulated but governments across the world are discussing to allow in a limited manner these currencies. As a matter of fact, RBI is launching its own cryptocurrency from December 1, 2022. Hence the companies which are ready for this futuristic currency will find themselves in a situation of competitive advantage.

[6] Objectives of the Research

This research paper has the following objectives:

(a) To bring at fore majority of the instruments of the Alternative Finance which are enhancing the depth in the financial markets

(b) To measure the impact of microfinance which is the most widely practiced instrument of Alternative Finance in bringing a turnaround in the lives of the people at the bottom of economic pyramid

[7] Research Methodology

This research has used the deductive and inductive methods for meeting the objectives of the research. The deductive method applied in this research leans towards the descriptive research. The deductive method includes the tangible evidences from the organization's operational and other parameters. The strategies that have provided organizations competitive advantage and ameliorated them to evolve a long-term sustainable model. The inductive method has used the explorative research design. This method has been applied for the assessment of the component of inclusive growth by using microfinance as a tool of bringing a turnaround in the livelihood of people at the bottom of the economic pyramid (sampling units of the research). For gathering information from the focus group, structured questionnaire has been used for collection of data from the respondents. The Pilot survey was conducted for the ascertainment of reliability of the questionnaire by using a split half reliability method (coefficient of r = 0.89).

The secondary source of data has been collected mainly selected by the researchers. Websites of the organizations and other Online resources has been referred. The Research design relating to primary data collection has following descriptors.

TABLE 1: Descriptors of Research Design

Category	Method/Type	Explanation
Research question has been crystallized	Formal Study	Research involves precise procedures and data source specification to test the hypothesis.
Data Collection	Communication Study	self-administered questionnaire used to collect the data and responses.
Time Dimension	Cross-sectional study	Data represented a snapshot of one point in time.
Scope	Statistical Study	Research captures the impact of microfinance on the entire population of beneficiaries by making inferences from sample's characteristics. Hypotheses are tested quantitatively and generalizations about the findings are presented based on sample.
Research Environment	Field Setting	Ground level data collection using direct communication method and statistical tools were used to confirm the hypotheses.

Data Analysis and Interpretations

The researchers have used the questionnaire method for the collection of data related to the beneficiaries of microfinance which is considered as a tool of inclusive growth. Nobel laureates namely Dr AmartyaSen and Prof MohdYunus have extensively worked in the field of need towards capability building and ensuring financial support to the people living at the bottom of the economic pyramid. This concept has been studied by the researchers through primary data collection and analysis. The results are given in the following paragraphs:

TABLE 2: Descriptive Statistics details of the Data Analysis

Variable	N	Mean	Median	True Mean	Standard Deviation	Standard Error
Age	61	38.75	40	38.56	8.77	1.12
No. of Dependents	61	4.262	4	4.218	1.57	0.201
Education	61	6.721	7	6.745	3.861	0.494
Monthly Income Before MF	61	4764	4000	4356	3967	508
Amount of Loan	61	19090	16500	18718	5297	678
Current Monthly Income	61	7462	6000	6891	5129	657
Satisfaction	61	1.6393	2	1.6545	0.4842	0.062
Increase in Income	61	2698	2000	2456	2230	286

The following table displays the minimum and maximum values and Quartile I and Quartile III values of various variables pertaining to the data collected

TABLE 3: Values of the Lower and Upper Quartiles of Data Set

Variable	Minimum	Maximum	Q1	Q3
Age	22	60	32	45
No. of Dependents	1	8	3	5
Education	0	15	4	10
Monthly Income Before MF	0	20000	2050	6000
Amount of Loan	15000	30000	15000	20000
Current Monthly Income	1200	30000	4000	8000
Satisfaction	1	2	1	2
Increase in Income	0	10000	1100	3750

Comparison of Past and present Income of beneficiaries:

The primary purpose of the MF loan was to support the commercial activities of the women so that she can be self-sufficient and earn livelihood on her own. The monthly income before the loan and after the loan, were taken as the primary indicators for the success of the loan. 2-Sample t-Test was carried out using excel as well as Minitab and the following results were obtained.

Null Hypothesis Ho: There is no difference in the monthly income before loan and monthly income after loan.

Alternate Hypothesis Ha: Monthly income after loan is significantly greater than monthly income before loan

TABLE 2: Result of Two Sample T-test for Income before and After loan

t-Test: Two-Sample Assuming Equal Variances		
	Current Monthly Income	*Monthly Income Before MF loan*
Mean	7462.295082	4763.934426
Variance	26301721.31	15737677.6
Observations	61	61
Pooled Variance	21019699.45	
Hypothesized Mean Difference	0	
df	120	
t Stat	3.250398916	
P(T<=t) one-tail	0.000747887	
t Critical one-tail	1.657650899	
P(T<=t) two-tail	0.001495774	
t Critical two-tail	1.979930405	

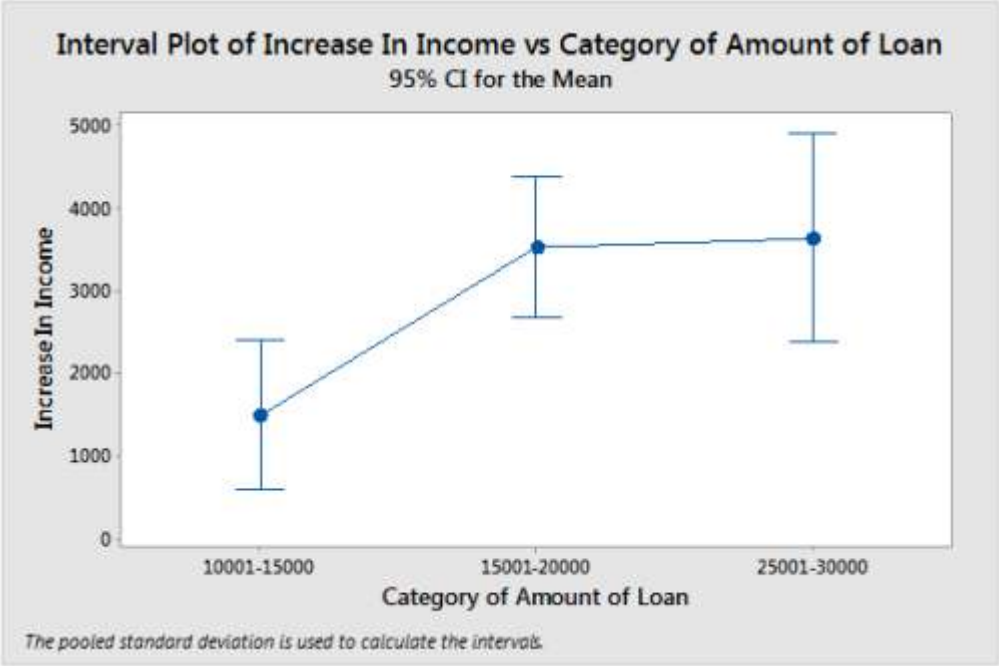
t-critical = 1.657, t-observed = 3.25

t observed > t critical and p-value < 0.05

Hence it can be said that there is significant difference between monthly income before MF loan and after MF loan i.e. the monthly income after MF loan is significantly greater than the monthly income before MF loan.

Therefore, it can be interpreted that the microfinance has been able to make a significant difference on the lives of the customers of Microfinance beneficiaries.

Further, there it has been observed that increase in income for beneficiaries having loan amount as 15000 is significantly less than those with loan amounts 18000, 20000, 26000 and 30000.



The Data interpretation and findings were derived after comparing the data on various parameters mainly related with income before microfinance loan and change in income after microfinance loan. The results of the data analysis conclude that there is significant difference between monthly income before microfinance loan and after microfinance loan i.e. the monthly income after microfinance loan is significantly greater than the monthly income before microfinance loan.

There are many business models in the field of microfinance which have built sustainable model over the years. A notable example is Grameen Bank of Bangladesh operating on the method of Joint Liability Group (JLG). Among Indian microfinance there are many names like Bandhan Bank (earlier Bandhan MFI), Suryoday MFI (now Small finance bank), Ujjivin MFI (now Small finance bank) and many more.

6. Summary and conclusions

The researchers through this paper have tried to put forth the various instruments of financial markets. The paper has especially kept its focus on highlighting the instruments of Alternative Finance which are providing additional avenues of investment as well as channelizing of savings. These instruments consequently proving depth in the financial markets.

The second objective of the research paper was to measure the impact of microfinance which is the most widely practiced instrument of alternative finance in the upliftment of quality of life of people at the bottom of the economic pyramid. The researchers have concluded that income levels of the beneficiaries of microfinance have increases significantly. Thus, it can be concluded that the tools of alternative finance are not only enhancing the depth of instruments of financial markets but also helpful in the achievement of inclusive growth.

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NEURO-MARKETING: A REVIEW OF LITERATURE

Rational thinking Explanation

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ABSTRACT

Understanding the consumer has always been of paramount importance for a marketer. The new angle of analyzing the decision making process of the consumer i.e. Neuromarketing was developed in 2002 but still it is in its nascent stage. This paper is an attempt to study advantages and limitations of the approach and find a research gap. The benefits of neuromarketing are known by all. It has some limitations too which have been discussed in the paper. The major objective of neuromarketing is to understand the brain functions when the brain is exposed to certain marketing stimuli. When the marketer asks the consumer whether he likes a certain feature or not, then verbal responses may or may not be true. Although this approach can prove to be a boon for all the marketers but most of the times it has been evidenced that responses of the brain can be influenced by the way of asking questions. Despite growing popularity of Neuromarketing, the acceptance of idea by marketers is not very encouraging. A survey of 64 neuromarketing firms was done by Nielsen Consumer Neuroscience, and observed that only 31% of them were using fMRI machines which signify that still this new approach has not been accepted by all. What are the issues behind it? The paper discusses them and tries to develop an insight about this new issue.

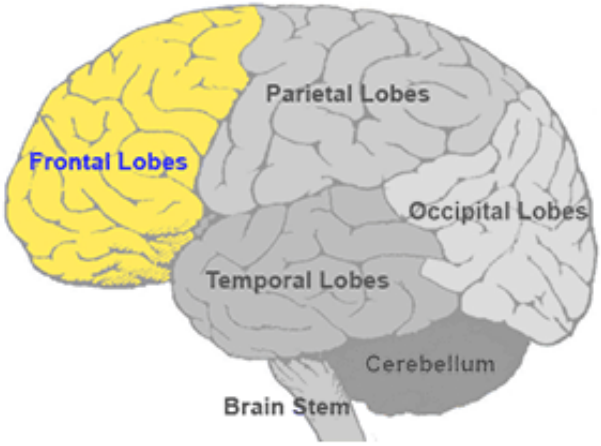
Keywords: Neuromarketing, Marketing, Consumer Behaviour, EEG & fMRI.

INTRODUCTION

Neuromarketing is an emerging field in the field of marketing. It promotes the value of looking at consumer behavior with the help of neurosciences. Neuromarketing is a field which combines the study of neuroscience and marketing. “Neuromarketing” refers to measuring signs of brain to develop an insight about expectations & preferences of a consumer. Advertising, Product development, Pricing are done according to the recorded responses. The idea of neuromarketing was mooted by psychologists of Harvard University. The term was coined by Ale Smidts in 2002.The first research towards this concept was done by Prof. Read Montague, Professor of Neuroscience at Baylor College of Medicine in 2003 and the said research was published in Neuron 2004. The study enquired the respondents regarding the consumption of Pepsi or Coca Cola. During the process of consuming the brains of

respondents were scanned by fMRI machines.The result was not favorable. When respondents were informed that they are consuming Coca-Cola then the study of responses of their brain showed that they prefer Coca Cola but when the respondents were not informed, they preferred Pepsi instead. Although Dr. Montague failed to provide sufficient evidence necessary for brand selection but the findings were sufficient enough to intrigue the marketers. This research stirred the interest of all the marketers towards this new angle of viewing consumer behavior. The major objective of neuromarketing is to understand the brain functions when the brain is exposed to certain marketing stimuli. When the marketer asks the consumer whether he likes a certain feature or not, then verbal responses may or may not be true.The technique of neuromarketing was applied by Frito Lay. Frito Lay was having shiny bags with pictures of chips on them. Frito Lay, with the help of neuromarketing discovered that shiny bags with pictures of chips on them triggered a negative response whereas 'matte' bags with pictures of potatoes triggered a positive response. Hence, Frito Lay scrapped the shiny packets and came with the new 'matte' bags with the pictures of chips on them and finally came with a better packaging in market. The same was adopted by Pay Pal. It discovered that advertisements focusing on convenience and speed triggered a positive response in consumers whereas advertisements emphasizing safety & security scored lesser as far as neuromarketing is concerned. They adopted the same and developed an entirely new ad campaign.

UNDERSTANDING THE CONSUMER'S BRAIN



Decision of 'Buy/Not to buy' is governed by our brain. Hence, it becomes very important for the marketers to understand the functioning of the brain. The executive functions are commanded by the frontal lobe in our brain. It manages our attention and is responsible for planning. Brain has only 2% of our body mass and it burns 20% of our energy. It is solely responsible for decision making process. Decision making of a consumer is of two types: 1) Rational thinking,

2) Emotional thinking. Neuromarketing suggests that both the types coexist. Sometimes, consumers adopt rational thinking and sometimes their buying behavior gets guided by their family members/peer groups.

LITERATURE REVIEW

A study done by Solomon (2018) revealed that Neuromarketing offers many exciting opportunities of understanding consumer behavior. It enhances marketer's understanding towards marketing related decisions.

According to Arthmann & Li (2017), Neuromarketing has accelerated the process of understanding consumer behavior and designing the product as per the responses collected in neuroimaging.

A study done by Wilson et al. (2019) reveals that neuroscientific approaches are known to understand the interplay of subconscious factors which depict the consumer behavior in some difficult situations.

Tallis et al.(2011), revealed a new term "Neuromania" which referred to different fields of study which adopt neuroimaging to explain myriad forms of brain activities responsible for consumer behavior.

A study conducted by G. Borghini et al. (2016) concluded that as the safety of passengers is dependent upon drivers as far as transport domain is concerned, the same is the case of consumer behavior. Behavior of consumers also gets governed by psychomotor responses.

A study done by Glaenzer (2016) reveals that effective use of neuro marketing can be done in supporting claims made in traditional markets and in assisting the marketers understanding of the effective marketing strategy for products/services. Neuromarketing is not going to change marketing mix but it can change the way

of finding the target audience.

Hensel et al. (2017) revealed that there is a lack of guidelines of ethical practices in the field of neuromarketing. Ethical guidelines are the guidelines which guides its followers to be able to differentiate between right and wrong.

In their study, Nemorin & Gandy Oscar H. (2017)found that the field of neuro marketing has some ethical issues regarding remote sensing, invasion of privacy, and statistical discrimination.

According to Kumar (2015), neuromarketing provides lucrating and enriching results when it is combined with culture. In this scenario, advertising can be made more meaningful and exciting.

A study done by Stanton et al. (2017) suggests that companies following the neuromarketing approach are analyzing the buying process and trying hard to find a buy button in the brain.

Research conducted by Michael et al. (2019) concludes that there might be a preferential link between mental imagery and memory. Mental images project a significant impact on memory. Objects create an image in the minds of consumers

Roth (2013) explicated the potential of neuromarketing in the marketing endeavors. Neuromarketing creates significant impact on the buying decision of consumers. It is the strongest tool to judge the consumer behavior.

A study conducted by Krajnovic et al. (2012) revealed that neuromarketing provides the data about consumer's perception which was not known earlier. It enables the marketers to assess the thought process of consumers regarding their products/services.

According to Morin (2011), Neuromarketing is gradually getting popular amongst marketers. It is being significantly adopted by marketing professionals. It has the potential address the limitations observed by traditional marketing techniques also.

A study done by Murphy et al. (2008) reveals that there are two categories of ethical issues in neuromarketing:1) protection of the parties which might be exposed to risk because of use of neuro marketing tools; and 2) In the event that neuromarketing attains a critical degree of effectiveness, consumer autonomy will be protected. In the explanation, it was explained in the study that companies using neuromarketing techniques should follow certain codes of ethics so that it can be ensured that technology is beneficial and not harmful to the categories stated above.

It was discovered that neuromarketing is gradually advancing in terms of both technology and insight, according to Lee et al. (2007). Future studies should concentrate on 1) neuromarketing-related problems and 2) how businesses can successfully incorporate this technology into their operations.

Research conducted by Constantinescu et al. (2019) revealed that it is not easy to integrate neuromarketing with social media as it entails very high amount of investment and consumers are very much disinclined towards getting them examined for gathering data.

LIMITATIONS

Although this approach can prove to be a boon for all the marketers but most of the times it has been evidenced that responses of the brain can be influenced by the way of asking questions. Despite growing popularity of Neuromarketing, the acceptance of idea by marketers is not very encouraging. A survey of 64 neuromarketing firms was done by Nielsen Consumer Neuroscience, and observed that only 31% of them were using fMRI machines. Although some top notch companies have started separate departments for this endeavor but small companies are still searching ways to implement the same. A study done by Antoniak M. (2020) reveals that neuromarketing has provided a new way to marketing campaigns, but many of its aspects are still uncovered. In many fields its impact is vague.A study done by Harrel E. (2019) revealed that the primary tools for scanning the activities of brain are: EEG and fMRI. Electroencephalogram (EEG) was being used earlier in marketing activities, but fMRI machines are being used very frequently these days as fMRI machines detect the activities of subcortical region (where a lot of interesting activities take place) in more efficient way. A team lead by a Professor of INSEAD, Hilke Plassmann used the technique of neuromarketing to judge the responses of three wines. It was informed to consumers that wines administered were of three types: First type was expensive one, second one was lesser expensive and third one was the least expensive among all. As per the

result, the brains responded favorably for the most expensive one, but when it was revealed to the samples that all the three were same then their responses changed and their brains started signaling of equal liking for all the three types. It signifies that brain assesses the worth of the expenditure. When the price was not revealed to the consumers then the question in their mind was "Do I like the product?" and when price was revealed the question in their mind was "Is this product worth the price?"

APPLICATION OF NEUROMARKETING BY VARIOUS COMPANIES

COMPANY	APPLICATION	INDUSTRY
Procter & Gamble	In launch of Febreze, Room Freshners	FMCG
Motorola	Product Design	Mobile Manufacturing
Delta Airline	To gain benefit out of fabulous experience	Airlines
Hyundai	In changing exterior appearance of the car	Automobile
Frito Lay	To test commercials, products and packages	Food
Pepsi Co	How to appeal better to women	Beverages
Yahoo	To test pre-release effectiveness of its branding campaign	IT/ITES
PayPal(along with ebay)	To identify speed and security issues of e-shopping	IT/ITES

(Source: Babu and VidyaSagar 2012)

RESEARCH GAP AND SCOPE OF FUTURE RESEARCH

The papers referred have studied the tools & techniques of neuromarketing, but appear to be silent upon the consistency of outcome of the brain. Outcome of the brain is inextricably connected to the thought process which can change in varied situations. Although the suggested tests can scan the brain in an effective way but many times it has been observed that consumers can train their brain. The study conducted by the professor of INSEAD(discussed above under the head Limitations) evidences the same.As far as, applicability of neuromarketing techniques are concerned, their applicability in large organizations has been studied but no literature evidences the study of these techniques in mid-size companies, may be due to high cost involved in conducting neuromarketing. In light of the above facts, applicability and relevance of the subject matter still needs to be studied in greater detail.

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RE-EXPERIENCING PERFORMANCE MANAGEMENT: SYSTEMS, LEARNING AND INTEGRATION

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Abstract
This concept paper aims to clarify what performance management is and how it emerged as a discipline by tracking your emergence at strategic, operational and individual levels. under an integrated performance management model. Three emerging approaches to performance management are introduced as potential triggers for the emergence of this system: system thinking, learning and integration. This paper is important for both physicians and academics, as it clarifies the existing body of knowledge and provides a platform for future research.

Key Words: Strategic, Operational, Individual Performance Management, Measurement, Integrated, Model, Discipline, Evolution, History, Systems Thinking, Strategy Dynamics, Balanced Scorecard, Learning, Theory, Research Agenda

Introduction

Abstract reasoning and introspection have enabled humans to advance scientific knowledge over the past 2,500 years, but as Shapin (1996) has shown, especially since the so-called "scientific revolution" (roughly from the 17th to the 19th century). Compared to the natural sciences that were developing at the time, such as physics and chemistry, human organization or management is loosely defined, some consider it a science and others an art. However, both proponents of governance as scientists and experts agree on your main role – to make things happen or achieve desired goals. Therefore, performance management has emerged over time as a sector that helps in setting, monitoring and achieving individual and organizational goals. Performance management is a relatively young, emerging discipline. Busi and Bititci (2006) say that performance management emerged as a subject of academic study and research in the late 1980s. Neely (1998) supports this idea, identifying the late 1980s to early 1990s as the period when it began to acquire an identity of its own, particularly in the form of performance measurement ("the process of measuring the effectiveness and success of past actions"). . One of these areas is a separate framework for information on performance management as a sector. The lack of standards related to the definition, classification, and use of specific tools makes both research principles and application management difficult. As a result, organizations face challenges in their attempts to align performance management practices across sometimes fragmented organizational departments, leading to difficulties in integrating both organizational and individual performance. For example, managing the performance of different departments is sometimes driven by conflicting goals. Similarly, the links between personal motivation, motivation and individual performance management in different organizational contexts require further investigation. The discrepancy between controlling and controlling thinking styles and thought processes in the Organization's administrative actions is another area of potential inequality. In today's

environment, the skills of knowledge workers and available technology both facilitate and hinder command and control access to governance. The examination of performance management from a systems thinking perspective (Emery, 1969, 1981) is motivated by the need to reassess the potential of the discipline based on the realities of the 21st century workforce and today's environment. Another area of weight management practice would be balance control and reward systems as opposed to learning and improvement. Clarifying and addressing these areas of inequality and conflict is essential to establishing a solid foundation for performance management as a code of conduct. Emphasizing the emergence, definition, and emergence of performance management at the strategic, operational, and individual levels is necessary because it would be unwise to make recommendations about the future of this program without prior analysis. Therefore, the article begins with an analysis of the emergence of management and performance management and clarification of their definition and role. It then goes on to review the evolution of performance management at each of three organizational levels: strategic (the entire organization), operational (a functional team or group), and the individual level. This journey will conclude by presenting three key perspectives on performance management that can act as catalysts for its future development. This concept paper thus takes the reader on a journey of rediscovery of performance management and an insight into its future direction. It aims to present a comprehensive picture of performance management by clarifying the concept and allowing readers to rediscover it in a new light. His main contribution to the existing body of knowledge is the presentation of three key directions for the future of the discipline: a shift from command and control to systems thinking, a strong emphasis on anti-learning scale for rewards, and the use of integrated performance. management system.

Rediscovering performance management:

Drive for evolution in nature and humans

A key characteristic of life is evolution driven by the need to adapt to a constantly changing environment. The overall evolution of species in nature perfectly illustrates this process, especially if we consider physical properties. However, there are many examples in nature where behavior has also changed to better adapt to the environment and improve the way certain activities are carried out. These include:

- As outlined by Wilson (1971, 1975), the organization and behavior of eusocial insects (ants, bees, termites, wasps, etc.) represents such an example of adaptability in nature.
- In the extreme cold of the Antarctic winter, penguins huddle together for warmth in an extraordinary cooperative effort. In addition, they rotate positions and take turns to occupy the hottest and coolest positions in the hive. According to Wienecke and Robertson (2008), this gregarious behavior results in improved thermal efficiency for the penguins, as huddling reduces heat loss by up to 50%. The temperature inside the clusters can be up to +24 °C, which allows them to survive freezing katabatic winds and blizzards of up to 200 km/h.
- Migratory birds are flocks that benefit from reduced energy consumption during flight. Many large birds fly in a V formation, with each member of the flock rotating as the flock leader. Individual energy savings have been estimated in the range of 12-20% (Hummel, D. and Beukenberg, M., 1989). Some species have been found in radar studies to fly 5 km per hour faster in flocks than when flying alone (Newton, 2008).

With such examples of cooperation and efficiency-driven behavior in nature, the constant human effort to improve is no surprise. This is illustrated by the many innovations and changes that have occurred throughout history, driven by the desire to do things better and push existing boundaries.

Definition of management

According to the Merriam-Webster dictionary, management is the performance or supervision (such as business) or rational use to achieve a purpose. The five "elements" or "processes" of management, as proposed by one of the pioneers in the field, Henry Fayol (1949), are:

1. Planning – examining the future and outlining the steps to be taken.
2. Planning - determining the boundaries of powers and responsibilities.
3. Integration - timing and sequencing of tasks, tying and coordinating everything.
4. Installation - to activate the system.
5. Control - monitoring and adjustment, ensuring compliance with regulations.

Definition of performance

At the organizational and individual level, one of the most important expectations for managers is balance and performance management. So in the midst of vision, action, and consequence, there is a path to be taken, and perhaps the most used word in everyday life to indicate the continuity of that path and its "operational" effects. This is in line with the Systems Thinking concept that every program needs to achieve a goal. A plan that fulfills its purpose is considered a "working" plan. However, the word "operation" is difficult to define because of its various meanings. As in the case of management, the term performance can be applied to different levels (personal performance, individual performance, team performance, organizational performance), expressing ordinary success (e.g. sports performance) or peer evaluation. The current concept of the word "work", as abbreviated in the Merriam-Webster English Dictionary, reflects its plural form:

1a: execution of action; b: something accomplished: act, performance

2: fulfillment of a claim, promise, or demand: realization

3a: an action representing a character in a game; b: public presentation or exhibition <benefit performance>

4 a: ability to perform: efficiency; b: the way in which the mechanism performs <engine power>

5: way of reacting to stimuli: behavior

6: linguistic behavior of the individual: parole; also: ability to speak a certain language — compare competencies.

Performance in the Management Research Literature:

The management research literature contains at least three detailed articles analyzing the term "performance" and its use: Lebas, Wholey and Folan, Browne et al. Lebas presented performance as a future trend, tailored to reflect organizational/individual details and based on a causal model that links inputs and outcomes. A "viable" business is one that achieves the goals set by the governing body, not one that has already achieved the goals. So performance is about energy and the future. In Wholey, testing is necessary because performance is not a physical 0- = t unless it is expected to be measured and evaluated somewhere, but a socially constructed reality that exists in the human mind if it exists. It has various meanings and may include inputs, outputs, outputs, economic outcomes, effectiveness, efficiency, cost savings, or equity. Both Lebas and Wholey see performance as speculation and translation, and are ultimately linked to themes of cost. The meaning and content of the concept of performance in business performance research is discussed in detail by Folan et al. which sets out three key factors or objectives for performance management. First, performance should be evaluated by each business in the area in which it operates. For example, a company's performance should be considered in the markets in which the company operates and not in markets that are not important to its operations. Second, performance is always linked to one or more goals set by the business in question. Therefore, the company evaluates its performance based on goals and objectives set and adopted internally, not those used by external organizations. Third, performance is reduced to relevant and visible functions. features like "the ability to use office supplies" are meaningless and invisible. In order to create the right conditions for achieving the desired performance, these essential elements must be integrated and coordinated.

Performance management and measurement:

In scientific management, performance is linked to two key processes: performance management and performance measurement. These two important processes cannot be separated from each other and both performance management is continuous and driven by a performance measure. Performance management is a

comprehensive program related to performance. It shows the way the company works and includes sub-processes such as: strategy description (strategic planning / preparation), strategic planning, training and performance measurement. Thus, performance measurement is a small performance management process that focuses on identifying, tracking and communicating performance results using performance indicators. Performance appraisals are related to test results, while performance managers are responsible for taking action based on test results and ensuring that targeted results are achieved. how to define these words and use the words interchangeably.

Key directions for the future of performance management

Command and control and systems thinking

An analysis of the history of performance management shows that the emergence of much of the 20th century was driven by command and control and mechanistic thinking (Seddon, 2008). The roots of performance management as a discipline can be traced back to Taylor's (1911) development in defining management as a science and the new methods of plant production and management introduced by Henry Ford at the turn of the century. Command and control and mechanical thinking emerged as simple solutions to the social, technical and economic needs of the time. The majority of illiterate employees and the ever-increasing demand of customers focus on the priorities of capacity, standards and control of product planning, professional process and targeted use. This approach suits both the employee profile, which included a low number of educated agents, and a limited understanding of organizations as organizations, allowing for a significant increase in productivity. Managers set goals for employees and monitor their success using a management and control system. Performance management was largely driven by financial ratios and production measures that were used to assess whether people were performing the tasks assigned to them by management. However, natural conditions are very different today. Customer needs are very different and the task is very difficult. Employees are highly educated, mobile and have diverse interests. The organization/organization concept has also grown beyond the first introduction of the concept in the mid-1950s by Peter Drucker. The work environment has changed from machine in many manufacturing areas to skilled work in the service industry. In this regard, in the early 20th century, many industrialists were engaged in the production of small parts and assembling them into a limited product. However, the automation of industrial activity and the growth of the service sector have dramatically changed the socio-economic environment. Thus, at the beginning of the 21st century, most workers were actively engaged in technology, service industries, which included human communication, stakeholder management, and the general decision-making process for each activity. Performance management structures have been slow to adapt, with most still emphasizing financial measures and a regulatory and regulatory framework based on the pursuit of intended profits. There are many situations in the organization of priorities that conflict with goals within the same organization and ineffective performance management due to an overemphasis on management control. Command and control thinking sees organizations below where managers make decisions based on budget, standards and policies. The work specializes in complementary works but is not fully integrated. Employees are controlled by ever-increasing management tools and processes - rules, details, procedures, tests, performance management reviews, etc. Another method of command and control/thinking machines is the most popular Systems Thinking by Peter Senge (1990) "The Five Commandments". Systems thinking supports holistic approach to managing organizations. Organizations operate as programs, not as functional categories, which place people at the center of the business and allow them to contribute. Seddon (2008) describes the organization plan as giving workers control rather than control over workers. When employees are assigned specific task, require management to work on matters that are outside the control of employees and that affect the conditions of the system – the “way of working.” A comparison between control thinking and control and Seddon Systems Thinking (2008) highlights the importance of learning and integrating systems thinking: Systems Concept mind control focuses on the program's meaning, purpose.

Integrated performance management

Practice shows that communication and integration between the three levels of organizational performance is limited. Evidence-based observations show that, in general, strategic performance management efforts are driven by the senior team, performance management by team managers, and individual HR leadership, particularly through limited, if any, interaction between them. This may be due to a number of factors that are common both within the sector itself and within specific organisations. Managers do not perceive performance management as an integrated unit used at different levels of the organization, but as a sub-component of strategic management, performance management and personnel management. An integrated approach that integrates all levels of performance management into your need for research and simplification to understand and implement performance management systems. To explore this integration, it is important to clarify the relationship between the three levels of performance management. With respect to the responsibility of the organization, strategic management, performance and individual performance are the responsibilities of management. Management teams establish and mandate the implementation of appropriate systems at each of these levels. Individual contribution occurs within these organizational boundaries. A different view can be explored by filtering these three levels through the lens of focus metering. Strategic and operational performance management is used to maximize the achievement of organizational objectives, with measurement focused on the group. Individual performance management systems are used to ensure the achievement of individual goals within the context of the organization, with measurement focused on the individual. This way of grouping the three levels of performance management highlights the tension that exists in organizations where individuals have a dual mandate and contribute to the achievement of organizational goals while striving to achieve individual goals. A third approach to grouping the three levels of performance management is based on considering the impact and visibility an individual has at all levels. Individual visibility of performance results is maximized at the individual and operational level. The latter is considered the link between the individual contribution and the organization. Personal impact at the level of strategic performance management is generally limited because many other factors contribute to the achievement of organizational goals. This general analysis of performance management standards is described in the table below. Integration between the three levels of organizational performance management therefore requires an extension of the basic concept. Their analysis is important for clarifying the relationship between individual levels of performance management. Research on performance management is mixed, drawing from a number of areas related to related ideas. Strategic management, performance management, personnel management, organizational behavior, information systems, marketing, statistical management and management all impact the performance measurement sector because, as a result of this multi-sector integration, the values they value are different.

First, it is a broad conceptual framework that outlines the organizational structure of an organization. This is supported by Organizational Theory (Jones, 1995), Program Theory (von Bertalanffy, 1973) and Contingency Theory (Donaldson, 2001) as related ideas that integrate structural features and Locke's theory of goal setting that support the operational aspect of Organization. . Second, there is a small view, consistent with its theme is individual behavior and process. The two main ideas of this subconscious theory – goal setting theory and key agent theory (Laffont and Martimort, 2002). Emphasizing the educational aspects of performance management is community learning theory (Bandura, 1977). Ormrod (1999) argues that the emphasis is on learning in a social context, given that people learn from each other, and suggests various concepts such as critical reading, imitation and modeling as useful aids. Modeling in public reading uses live models (a real person exhibiting behavior) or a symbolic model. For training purposes, the model model is best suited to a performance management context due to privacy concerns. The main theory that informs individual performance management is Locke and Latham's goal-setting theory, one of the most effective motivational theories. It is structured in a dynamic way based on research that has been going on for almost four decades. Its roots are based on the principle that careful principles influence action (where terms are considered

the object or purpose or action) (Locke and Latham, 2002). Although goal theory is often reviewed at every level, its goals are also considered important at the organizational level. Locke goes on to say that goal setting is most effective in any task when people are in control of their performance. Research in this area currently examines goal setting theory at both the individual and organizational levels. In the context of an organization, personal views emphasize the interests of individuals, groups, and the enterprise as a whole. Conflicts of interest can encourage inconsistent behavior and this has the potential to affect performance. Therefore, alignment between individual and team goals is critical to maximizing performance. This combines goal-setting theory with key-agent theory, also called agency theory. Agency theory (Eisenhardt, 1985) describes the best way to organize relationships when one group (the principal) makes decisions about work, while the other group (the agent) does. The agency's problem is to determine the service provider's service contract. An important relationship between agents should reflect well-planned information and risk-taking costs. Self-interest, moderate mindfulness, and risk aversion need to be considered, while at the organizational level, ideas to analyze are conflict of interest among participants and knowledge inequality. This links agency theory with organization theory, learning about complete organizations, how they meet, and strategy and management structures. Eisenhardt (1985) also considers agency and theory to be rational, knowledge-oriented, performance-oriented, concerned with strategic management decisions, and distinguishes between two types of performance appraisal management: behavior-based and outcome-based.

Taken together, different versions of the Theory of Society emphasize the importance of job characteristics, especially the work schedule, in choosing a management strategy. The presence of "people" or public control is another form of control through performance evaluation. Unlike ancient scholars, many scholars today believe it does not exist.

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Artificial Intelligence: A Revolutionary Catalyst in Safety Spectrum of Indian Railways

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Abstract:
Indian railways have come a sustained approach both in terms of quality and quantity, still it continues to endure host of problems. The biggest one is the problem of safety. Indian railways have often been in the headlines for this issue. As Indian Railways continue to grow, both in terms of capacity and traffic, it continues to raise eyebrows when it comes to ensure safety.
Indian Railways have addressed safety issues in various fields for instance Auxiliary Warning system, Vigilance Control Device, GPS Trackers, GPS-based fog Pass Device, LHB coaches and such more.
To make the pace in the current competitive tech- based world and to make the stand at the local and global platform, AI is the best option out of the available ones, till another advanced innovative things steps in.
Indian railways too are in speedy process of digital railways and would surely take AI as an important tool in time to come.
The entire research paper is banked upon secondary and exploratory research. It takes support of case studies and life experiences of researchers. It takes into account routine observations of the common public and their open feedback.
Human relations with technology, especially Artificial Intelligence is extremely complicated. Though there are short-terms uncertainties, but the long-term vision is very simple and clear. Hence, we must accept and adapt to AI as a new way, not only for Indian Railways, but also in other aspects of life

Keywords: Indian Railways, Artificial Intelligence, Safety Issues, Digital Railways, sustained Approach

Introduction

Artificial Intelligence in Indian Railways will deliver a comprehensive variety of essential services such as train functions, travel document reservations, system continuances, railway estates, and countless more.. Indian Railways evaluates these real-clock data to use in PRS (Passenger Reservation System) for effective stream without any prospective faults

Why to talk on this topic? The Degree of Seriousness of the Matter

Indian Railways the largest network in the world ranks 4th all over the world in terms of railway tracks (erail.in). It is a great employment generator in the country and has witnessed noticeable difference in the lives of a common man. Indian railways have come a sustained approach both in terms of quality and quantity, still it continues to endure host of problems. The biggest one is the problem of safety. Indian railways have often been in the headlines for this issue. As Indian Railways continue to grow, both in terms of capacity and traffic, it continues to raise eyebrows when it comes to ensure safety. The era of 1970-90s was extremely gloomy for Indian Railways as those were the years when railway accidents were at their

peak. The problem was so grave that the Indian Railways had to set-up a committee, Railway Safety Review Committee (popularly called 'Khanna Committee') steered by Justice H.R. Khanna, a retired Supreme Court judge, to investigate this matter. The committee reported that almost twenty five percent of the railway tracks were reported extremely old and needed immediate replacement. This was an eye-opening revelation and that it was no-brainer that the majority accidents were due to old and faulty railway tracks. The other reasons for accidents were damaged coaches, broken bridges, defective signaling systems and alike. The report made 278 recommendations (H.R.Khanna, 1998), with major recommendations being around technological upgradations in telecommunication, signaling, rolling stock, etc. These recommendations continue to remain relevant even in today's time because a lot of progress remains to be seen despite of the fact that the government had accepted majority of these recommendations.

The problem of safety is not merely restricted to accidents. Ticketless travelling is another big issue which is directly linked to the safety. Ticketless travelers often end up causing crimes like theft, violence, and other trouble for the train passengers. (Sundar, 2013) Ticketless travelling continues to rise in Indian Railways. The rise in ticketless travelers is around 60% over 5 years, with an average 75,000 individuals traveling around every day without proper tickets. (Express, 2019). With a view to curb ticketless travel, Indian Railways went on penalizing passengers further by increasing fines on ticketless travel. However, it turned to be a drop in the ocean as penalty revenue through ticketless travel rose by 100% whereas the ticketless travel rose by 20% for the corresponding period. (Express, 2019). When the drive on ticketless travel was further intensified, the Indian Railways ended up earning Rs. 1,377 crores through financial penalties over 3 years, with over 89 lakh passengers without tickets. (Gurung, 2019) This figure is more than the entire population of various nations such as Israel, Singapore Denmark, Sweden, etc. These ticketless travelers often end up conducting crimes, mostly theft. Hence, there is no surprise that the cases of theft have grown almost in tandem with ticketless travel. Over 1.71 lakh cases of theft have been registered by train travelers in last 10 years with the highest mark of 35,584 cases in 2018. (PTI, 2019).

Research Methodology : The method used in this research is Secondary data analysis,. The research based on archival works include research papers and case studies. To serve the purpose we used the data collected from secondary sources such as the library database and the company's website including various news articles, case studies.

The entire research paper is banked upon secondary and exploratory research. It takes support of case studies and life experiences of researchers. It considers routine observations of the common public and their open feedback. Secondary sources comprises of Research publications, Newspapers, Datamining (exploring through internet). Data have been collected inaccordance with the objectives mentioned in earlier lines.

The research is based on Analytical method which uses the facts that havebeen confirmed already to form the basis for the research and criticalevaluation of the material is carried out in this method.

Options to Resolve the Matter

Indian Railways have addressed safety issues in variousfieldsfor instance Auxiliary Warning system, Vigilance Control Device, GPS Trackers, GPS-based fog Pass Device, LHB coaches and such more. To limit ticketless journey, Indian Railways has resorted to surprise checks, intensive checkpoints, QR based entry codes, posters to make them realize of social and human values. Even Though we are slowly moving towards data-centric and technology-based solutions, we are yet to getgreat when it arrives Artificial Intelligence. Artificial Intelligence is a simulation of human intelligence using technologies such as neural networks, machine learning & natural language processing. Let usappreciate the competencies of Artificial Intelligence with the support of an illustration. The Central Railway Zone of Indian Railways consists approximately 5975.33 kms of track with 477 stations and handles multiple trains. (Railways, 2011). The zone is split into multiple divisions, which are further split into multiple parts, each managed by a human dispatcher who assigns tracks for trains. Decisions about reordering trains due to

delays are a summation of various constraints such as train priorities, freight load, passenger connections and such, which might prove to be challenging for a human as it is s tremendouslyintricate to solve all these problems at one fell swoop and provide the best course of action.A 'sense-analyze-respond' system works well in such scenarios The 'sense' feature would blend all the data relating to train status, 'analyze' would contemplate about the outcomes of available options and the 'respond' feature would assign resources for trains by considering the safety aspects as well.

We can similarlyoperate Australian model of safety in AI. There are more than 340 million journeys made every year (Center, 2019).Discussingexplicitlyconcerning the Waratah fleet within Sydney, 30,000 signals from each train every 10 minutes (Center, 2019). So essentially these are trains with brains and turning this data into insights can prove extremely valuable. These insights are framed using Artificial Intelligence platforms and hence they have built a platform with Microsoft called 'Train DNA' (Center, 2019). As the name suggests, it isvirtually like having a blood pressure reading to inform us about the physical condition of the train. Train DNA turns the information being collected by the railway authorities into something they can use to improve reliability of trains. Train DNA is constantly giving intuitions of train conditions such as friction, speed, engine function, light, receptibility and alike, facilitates to uncover faults thereby lessening the probability of mishaps. In the Indian context, it can be managed to evaluate the average passenger load v/s the train tickets issued for a particular train. It can be also applied to dispatch details regardingactive train tracks on which trains are running, to guess if in the vicinity there exist troubles with the track or coaches.

AI option as a solution: why?

No interpretation is required here to put forth in support of AI. It is the call of the hour to go for it as earliest as possible. The entire globe is accepting it as the basic structure in almost every sphere. To make the pace in the current competitive tech- based world and to make the stand at the local and global platform, AI is the best option out of the available ones, till another advanced innovative things steps in.

Safety Focus with Artificial Intelligence is the Future

The digital based working of railways is an emerging actuality wide-reaching. Our economy can have a giganticlift by the commitment of artificial intelligence in Indian Railways. But Then this can take a few years to catch on since AI-based train systems are currently under the assessment or advancement stage.

We observe predict-and-prevent' monitor software can assist in saving of resources, expand capability and eradicate any unscheduled interruptions or facility abandonment. The additional computer-generated-security option can be utilized to carry a secure online key management system for the trains with a good blend of physical and online platform having proper interface.

For ensuring public safety The first autonomous tram launched by Seimens in Potsdam, Germany in 2018 can avoid the threat of people walking in front of a moving vehicle. (Jain, 2020) It is yet in the advancement stage but it surely has a great pact to extend the larger self-governing vehicle market that is zooming up at a soaring level.

The software tools like first automatic learning module, namely CLASCA, GENESCA module dedicated to the generation of new accident scenarios, in Europe, are in mock-up stage.

India's fastest supercomputer PARAM Siddhi — AI has been built under the National Supercomputers Mission of India. ranking 63rd in top 500 in the world. The aim was to make India the 'AI garage of the world' (Goled, 2020)

The software tools like first automatic learning module, namely CLASCA, GENESCA module dedicated to the generation of new accident scenarios, in Europe, are in mock-up stage (Mabrouk, 2019). Indian railways too are in speedy process of digital railways, and would surely take AI as an important tool in time to come.

Understanding the limitations Artificial Intelligence

Every coin has two sides. AI has specific problems to be highlighted here.

- **Safety Problems** : It isstrange to imagine AI has safety issues as AI is used to resolve safety issues in Indian Railways. No matter how weird it might

sound, but it's true. There have been multiple instances where has AI has faced safety concerns. These are popularly known as "AI Accidents". AI Accidents are frequently portrayed as unintentional and dangerous behavior that arises from impoverished design of AI systems. It is mainly in circumstances where AI undertakes unrelated actions to achieve a specific goal/task. This methodology often leads to accidental outcomes especially when the goal or task is complex, and the environment is hostile or complicated. While human beings use common sense and avoid unrelated actions, the same can hardly be said for Artificial Intelligence. In context of Railways, the same might be true when AI is used to avoid collusion at 4-way crossing junction. Multiple sensors sending data simultaneously might compel the AI to perform unrelated-dangerous actions.

- **Data Privacy & Security:** The underpinning factors for all the AI models are based on the availability of dataand resources which act as fuel for AI. We have data sourceand can collect from lakhs of customers and instances, but there ishigh-levelprospect of data leakages. India has observedin 2020 substantial upsurge in cyber-attacks. India has witnessed close to 12 lakh cyber-attacks in 2020 showing 200% increase than the previous year. (Karan, 2021) Though we belong to IT hub, but when it happens to cyber security, defense & surveillance, a good bunch to work onit. The issue of data security is grave because cyber-attacks have been faced by government entities too. Recently, there was a cyber-attack on Air India which exposed the data of nearly 4.5 million passengers, including their financial details such as credit card, CVV code, etc. (BBC, 2021). In such scenario, switching to AI can prove to be a big risk. India not only needs to work on Data Privacy Lawa, but also needs to improve in cyber warfare which can be possible only with government support & intervention.
- **Computing Power:** Machine Learning and Deep Learning are the springboards of this Artificial Intelligence, and that they call for an ever-growing range of cores and GPUs to paintings efficiently. There are diverse domain names in which we have thoughts and information to put, to gain knowledge of frameworks which include asteroid tracking, healthcare deployment, tracing of cosmic bodies, and lot more. They require a supercomputer's computing electricity, and yes, supercomputers are notlow-cost. Although, because of the provision of Cloud Computing and parallel processing structures builders' paintings on AI structures, they arrive at a reasonable price., AI is still expensive which causes it to be unscalable.
- **Trust deficit:** One of the major problems of AI is its unpredictable nature of how it interprets different inputs to deliver outputs. Also, what specific set of data can solve our problems is also extremely difficult to understand for a common man. This is because there is very limited knowledge and awareness of AI among common people. Many people do not even know how AI is part of their daily life such as Smart TVs, cellphones, cars, bank accounts, etc.

Conclusion & Future Insights

Human relations with technology, especially Artificial Intelligence is extremely complicated. Though there are short-terms uncertainties, but the long-term vision is very simple and clear. Hence, we must accept and adapt to AI as a new way, not only for Indian Railways, but also in other aspects of life because if we just go in unprepared, it will be the biggest mistake of mankind. So, if we could plan this transformation through AI and steer carefully, we could all have a great and a fantastic future where everybody is better-off.

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