JBIMS
Spectrum

Jamnalal Bajaj Institute of Management Studies
Department of Management Studies,
University of Mumbai

DISCLAIMER

From the Editorial Board

Jamnalal Bajaj Institute of Management Studies (JBIMS) was founded in 1965 by the University of Mumbai. The philosophy which has inspired the vision and approach of JBIMS since its inception is that of cultivating management thinkers and innovators who are deeply entrenched and firmly rooted in the Indian soil. This has been underlying theme of JBIMS for 50 glorious years as it launched various educational, research and development activities for the advancement of management education. The institute has constantly focused on inculcating an action- oriented approach and driving the need to constantly innovate and reinvent in order to sustain in a dynamic business environment.

With a view to foster innovation and research, JBIMS has taken yet another leap forward with the Research Journal that will be published twice a year. Driven by mission of quality education and research, the Journal will attract the brightest of researchers and academicians to share and contribute their research and experience. This research journal aims to create greater collaboration and sharing of academic understanding. The Institute seeks to provide excellence in management education and research by way of this journal-JBIMS Spectrum. The Journal aims to become a wealth of world-class research and analysis across the entire spectrum of management education. By way of our alliances, we hope to create a rich compilation of management knowledge that will benefit our readers which comprises industrial stalwarts, researchers, academicians and the student fraternity.

We, thereby, invite all research scholars, academicians, management teachers, practicing managers and students to use this golden opportunity to take their research to the vast network associated with JBIMS and enable us to create a portal for the transfer of high-quality research-driven information.

The Editorial Board
JBIMS Spectrum

Editorial Board

TABLE OF CONTENTS

A Study of Awareness of Mutual Funds and Investment Behaviour of Retail Investors in Uttar Pradesh & Uttarakhand

Rajat Mehrotra
Assistant Professor
Lal Bahadur Shastri Institute
of Management & Technology, Bareilly
Dehradun

Dr. Vinay Kandpal,
Assistant Professor,
University of Petroleum
& Energy Studies,

Abstract

- **Purpose/Objectivity:** The present study focuses on the awareness of mutual funds. The study will reflect the awareness level, investment pattern and the selection of a mutual fund scheme and their linkages with the financial objectives of retail investors.

- **Research Design/methodology/Approach:** The study demonstrates the investment patterns and decision made by retail investors in selection of mutual funds. The study was conducted using questionnaire survey taking into consideration the awareness level of different retail individual and their different trends of Investment in Uttar Pradesh & Uttarakhand.

- **Practical Implications:** Implications of the findings of the study will be to discuss it with Mutual Fund Companies. They can concentrate their efforts towards the promotional aspect and the new product development techniques along with increase in awareness being created in the mind of different retail investors towards mutual funds. The study will also analyze the investment behavior of retail investors to achieve more returns in the form of growth and regular income and attain the desired financial goal.

- **Originality/value:** The research paper is an original work based on primary data gathered from the respondents from Uttar Pradesh & Uttarakhand. The secondary data will support in ascertaining the comprehensive views towards investment pattern in mutual funds.

**Keywords*:* Mutual Fund Schemes, Investment Patterns, Retail investors.

In few years Mutual Fund has emerged as a tool for ensuring one's financial well-being. Mutual Funds have not only contributed to the India growth story but have also helped families tap into the success of Indian Industry. As information and awareness is rising more and more people are enjoying the benefits of investing in mutual funds. The main reason the number of

retail mutual fund investors remains small is that nine in ten people with incomes in India do not know that mutual funds exist.

The trick for converting a person with no knowledge of mutual funds to a new Mutual Fund customer is to understand which of the potential investors are more likely to buy mutual funds and to use the right arguments in the sales process that customers will accept as important and relevant to their decision. This research gave me a great learning experience and at the same time it gave me enough scope to implement my analytical ability. The analysis and advice presented in this research report is based on market research on the visibility, marketing and satisfaction of the investors and preferences of the investors for investment in Mutual Funds.

This Report will help to know about the investors' Preferences, awareness and their satisfaction level in Mutual Fund i.e. Are they prefer any particular Asset Management Company (AMC), Which type of Product they prefer, Which Option (Growth or Dividend) they prefer or Which Investment Strategy they follow (Systematic Investment Plan or One time Plan).

The first part gives an insight about Mutual Fund and its various aspects, the Company Profile, Objectives of the study, Research Methodology. One can have a brief knowledge about Mutual Fund and its basics through the research.

The second part of the research consists of data and its analysis collected through survey done on 100 people. For the collection of Primary data I made a questionnaire and surveyed of 100 people.

INTRODUCTION

The research was conducted to study the awareness of mutual funds among the Investors, what all factors they consider while Investing, return they expects on the investment and their perception related to Mutual Funds. The study also includes examining the customer satisfaction in terms of the return and meeting up their objectives to Invest in schemes.

The research analysis include the responses of 100 investors about the objective of Investment, expected return, knowledge about the market and the schemes offered by various players in the

industry. This research will help to know about the latest trends of Investment related to Mutual Funds. With the increase in the awareness level related to Investments and their associated benefits with the various schemes, now there is a shift in the investment pattern of the Investors and the various Investment avenues where these investors can invest and take the benefits of Professional Management. It will help to understand the future prospects of the growth and the lower investment in the mutual funds by the customers. A big boom has been witnessed in Mutual Fund Industry in recent times. A large number of players have entered the market and trying to gain market share in this rapidly improving market. The study will help to know the preferences of the customers, which company, portfolio, mode of investment, and option for getting return and so on they prefer. This research may help the company to make further planning and strategy. This will help the company in understanding the reasons for the less investment in the mutual funds of the customers. This may give the future scope of the research in the area of mutual funds to precisely understand the reasons of not being aware of the schemes and take the corrective actions accordingly. The confluence of emerging technology and enabling regulation will facilitate the industry to broaden and deepen its reach amongst retail investors. This research is limited to the study of certain selected factors and its effect on retail investors in their investment on mutual funds, analyzing retail investor's perception towards the mutual fund industry. The study is limited to Bareilly area.

Mutual Funds refer to funds which collect money from investors and put this money in stocks, bonds and other securities to gain financial profit. Persons whose money is used by the Mutual Fund Manager to buy stocks, bonds and other securities, get a percentage of the Profit earned by the mutual fund in return of their Investments.

In this way, mutual fund offers benefit to both parties. A Mutual Fund is a trust that pools the savings of a number of investors who share a common financial goal. The money thus collected is then invested in capital market instruments such as shares, debentures and other securities. The income earned through these investments and the capital appreciation realized is shared by its unit holders in proportion to the number of units owned by them. Thus a Mutual Fund is the most suitable investment for the common man as it offers an opportunity to invest in a diversified, professionally managed basket of securities at a relatively low cost.

A mutual fund is a professionally managed type of collective investment scheme that pools money from many investors and invests it in stocks, bonds, short-term money market

instruments, and/or other securities. The mutual fund will have a fund manager that trades the pooled money on a regular basis. The work of stock and bond Market Analysis, Market Research and Market Speculation is done by the mutual fund managers. The people who invest in Mutual Funds are generally exposed to much lower Risk compared to those who directly invest in bonds and stocks. Mutual Fund Investment involves lower Risk as the investment is diversified in to different bonds and stocks. So, if at any time Market Value of one particular bond or value of the stocks of any particular company drops, then the loss incurred by the mutual fund can be offset by the Market Gain of any other stocks.

The two segments of individual and institutional customers reflect significant differences in the nature and rationale of their buy, usage of distribution channel, place of origination of sale and ticket size. The choice of asset reflects the difference in investment objectives of the two customer segments – capital protection and return optimization for the institutional investor vis-à-vis long-term growth for a retail investor.

AMCs have initiated multi-pronged measures to engage with customers from different socio-economic tiers to widen their base and increase ticket size.

With HNIs being a key customer segment, many AMCs and foreign banks undertake tailored programmes to increase their engagement with this segment. They curate events that are relevant and aligned with the social and cultural interests of this segment, and use these platforms to engage with HNI customers.

The adoption of the industry-wide goal of improving retail participation has led to the market witnessing multiple outreach initiatives. While some of the mass- outreach initiatives are similar across the different AMCs, others are customized to offer a differentiated experience to their customer base.

Opportunities of Mutual Funds are tremendous especially when investment is concerned. For any individual who intends to allocate his assets into proper forms of investment and want to diversify his Investment Portfolio as well as the risks, Mutual Funds can be proved as the biggest opportunity. Investors get a lot of advantages with the Mutual Fund Investment. Firstly, they are not required to carry on intensive research and detailed analysis on Stock Market and Bond Market. This work is done by the Fund Mangers of the Investment Management Company on behalf of the investors. In fact, the professional Fund Managers who handle the mutual funds of any particular company are able to speculate the market trend more correctly

than any common individual. Good Speculation about the trends of stock prices and bond prices leads to right allocation of funds in the right stocks and bonds resulting in good Rate of Returns. Investors also get the advantage of high Liquidity of the mutual funds. This means the investors can enjoy easy access to the funds invested in the mutual funds whenever they require the money.

Investment Diversification actually diversifies the Risk associated with investment. This is because, if at a time, if prices of some stocks are declining, decreasing the Value of Investment, prices of some other stocks and bonds may tend to rise and in this way the loss of the mutual fund is offset by the strength of the stocks whose prices are rising.

People find mutual fund investment so much interesting because they think they can gain high rate of return by diversifying their investment and risk. But, in reality this scope of high rate of returns is just one side of the coin. On the other side, there is the harsh reality of highly Fluctuating Rate of Returns. Though there are other disadvantages also, this concern of fluctuating returns is most possibly the greatest challenge faced by the mutual fund. In spite of being a diversified investment solution, mutual funds investment in no way guarantees any return. If the market prices of major shares and bonds fall, then the value of mutual fund shares are sure to go down, no matter how diversified the mutual fund portfolio be. It can be said that mutual fund investment is somewhat lower risky than Direct Investment in stocks. But, every time a person invests in mutual fund, he unavoidably carries the risk of losing money.

LITERATURE REVIEW

- Malkiel (1995) studied a sample of surviving and non-surviving funds for 1971–1991 and found some evidence of performance persistence during 1970s but not in 1980s
- .Elton et al. (1996) evaluated the performance persistence for a sample of 181 funds during 1977–1993. Their findings supported the existence of performance persistence in short as well as in long run.
- Droms and Walker (1996) again examined 151 equity mutual funds that were in continuous operation for 20 year period from 1971 to 1990. They structured extended models of cross-sectional / time–series regression and again showed that fund performance was not related to their size.

- Wermers (1997) analysed the 55 June 2005 for raw returns, tracking error and information ratio. They found persistence in performance in case of growth funds, but no such evidence was found in case of equity linked saving schemes.

- Murthi et al. (1997) first attempted to apply this methodology, obtained a mutual fund efficiency measure, called DEPI index. This measure does not require specification of a benchmark and considered risk measure and transaction costs only. The authors found that mutual funds were all approximately mean-variance efficient.

- Cai et al. (1997) examined 64 open–ended Japanese funds over a period of January, 1981 to December, 1992 using Jensen's measure and also employing value weighted single index benchmark and Fama French three factor model. They concluded that most of the mutual funds underperformed their benchmark.

- Malhotra and McLeod (1997) examined 932 equity and 1435 bond mutual funds for the years 1992 and 1993. They found that bond funds with higher expense ratios achieved higher yields whereas, equity funds with higher expense ratios achieved lower yields.

- McMullen and Strong (1998) analyzed 135 common stock funds through DEA. Authors found that only a few funds were dominant and the most popular stock funds generally performed poorly.

- Philpot.J. et al. (1998) employed time series cross-sectional analysis on 27 bond mutual funds from 1982 to 1993. They found the presence of economies of scale in bond funds as their performance was directly related to their asset size.

- Indro et al. (1999) studied 683 domestic, actively managed mutual funds from Morningstar database for the duration 1993 to 1995. They found that over a certain range of mutual fund sizes, results are lower for small sized fund, but further increase in their size increases their performance and hence, the relationship between fund size and performance is curvilinear.

- Dahlquist. M. et al (2000) studied 210 Swedish mutual funds from the end of 1992 to the end of 1997 and provided mixed results for the impact of asset size of the funds on their performance. They concluded that larger equity funds tend to perform less well than the smaller equity funds, however, larger bond funds have performed better than the smaller bond funds.

- Singh and Singla (2000) evaluated the performance of twelve growth oriented mutual funds for October 1992 to September 1996. They used Treynor index, Sharpe index and

Jensen measure and concluded that mutual funds did not perform better than their benchmark indicators.

- Chander (2000) measured the performance of selected Indian mutual fund schemes by using Sharpe measure, Treynor measure and Jensen differential measure. In their study, it was found that majority of sample mutual funds showed superior performance as compared to their benchmark portfolio.

- Busse (2001) examined 230 equity mutual funds during the period January 2, 1985 to December 29, 1995 and it was concluded that daily estimates were more precise relative to monthly estimates.

- Gupta (2001) evaluated the performance of 73 Indian mutual funds over a period April 1994 to March 1999. He used seven performance measures and found that the performance of sample schemes had shown 50 mixed results.

- Galagedera&Silvapulle (2002) examined 257 Australian mutual funds for five years from 1995 to 1999. Authors found that when fund's long term growth and income distribution was considered, DEA showed more funds were efficient as compared to shorter time horizons were considered.

- Otten and Bams (2002) evaluated the performance of 506 European equity mutual funds by applying Carhart (1997) four factor asset pricing model. They found that European mutual funds were able to add value indicated by their positive after cost alpha.

- Sapar and Madava (2003) evaluated the performance of Indian mutual funds in a bear market through studying a sample of 58 open–ended funds over a period September 1998 to April 2002. They concluded that most of the mutual fund schemes in the sample generated excess returns over the expected by considering both systematic and total risk.

- Siggelkow (2003) studies the diversification of fund offerings by mutual funds families. He discovers that funds belonging to more focused fund families outperform similar funds in more diversified families. However, he finds that diversification improves the fund family's cash inflow. So he argues that there exist conflicts of interests between the shareholders and fund family owners in terms of focusing and diversification.

- Dowen and Mann (2004) analyzed pure no load funds from Morning Star Principia data base on 31 march, 2003 and found that larger funds that are a member of large fund families produce superior returns at low cost.

- Chander and Singh (2004) analyzed the performance of 23 mutual fund schemes on risk and return relationship. They took the sample from five Indian mutual funds as alliance Capital, Prudential ICICI, Pioneer ITI, UTI and Templeton India. Authors found that Alliance Capital, Prudential ICICI and Pioneer ITI scored better return than the market whereas, the schemes floated by UTI and Templeton India recorded a poor return.

- Gupta and Gupta (2004) examined the investment performance of 57 equity schemes of Indian mutual funds from April 1, 1999 to March 31, 2003 and found that some of the funds performed better than the market. They are also concluded that the Indian mutual funds were not diversified.

- Tripathy (2004) examined the performance of 31 tax planning Indian mutual fund schemes from 1994–95 to 2001–02 by employing six performance measures. He found that fund schemes neither fetched better returns than the market nor were they sufficiently diversified.

- Rao et al. (2004) analyzed the performance of 21 equity funds in India. They conducted their study during 1997-2000 and 2001-2004 by employing data envelopment analysis (DEA), Semi-Standard Deviation, Negative Potential Measure, Morning Star Methodology, Sharpe, Treynor, and Jensen. According to DEA, no scheme was consistently among the top 5 in both time zones.

- Anderson et al. (2004) the relative performance of 348 Real Estate mutual funds has been assessed for the period 1997–2001 by 51employing DEA, a non–parametric statistical procedure. They found efficient performance by only 23 funds out of the total sample.

- Gregoriou et al. (2005) tested the performance of 614 hedge funds and compared the performance of different types of hedge funds. BCC model, the cross-efficiency model and the super-efficiency model were employed. Their results indicated that DEA could test the non-normal distribution of hedge funds and compared the performance of different types of hedge funds.

- Ranganathan (2006) studied fund selection behavior of individual investors towards mutual funds. The study found along with the fund performance record, sponsor's expertise in managing money, which is closely, followed by reputation of the sponsoring firm are the most influencing factors in mutual funds selection.

- Chen and Lin (2006) evaluated 14 mutual funds for the time periods 1999–2000 and 2000–2002. Employing the DEA technique, authors concluded that the relative rankings of the mutual funds changed in the two time periods.

- Muthappan and Damodaran (2006) examined the performance of 40 Indian mutual fund schemes within a framework of risk and return from the period April 1, 1995 to March 31, 2000 by employing five performance measures as Sharpe ratio, Sharpe differential return measure, Treynor ratio, Jensen measure and Fama's component of performance. They found that risk and return of the mutual fund schemes did not fall in line with their stated objectives and also concluded that the sample schemes were not adequately diversified.

- Anand and Murugaiah (2007) evaluated the performance of 113 Indian mutual fund schemes having exposure of more than 90 percent of corpus to equity stocks of 25 fund houses, during four year period from April, 1999 to March, 2003. Authors showed that expected market risk and return have shown a close correlation with the fund returns.

- Redman and Gullett (2007) studied risk adjusted performance of taxable bond funds and municipal bond funds. They found that for taxable mutual funds, fund size positively affect risk adjusted returns and hence provided evidence of economies of scale.

- Pollet and Wilson (2008) studied funds for a period from 1975 to 2000. They showed that the number of stocks in the portfolio of mutual funds increased at a slow rate in response to flows. Therefore, the diminishing return to scale is present in mutual funds because of their inability to scale an investment strategy as the fund becomes large.

- Lin and Chen (2008) analyzed 78 American mutual funds from January, 2001 to December, 2003 by employing DEA technique. They divided the total time period into three sub periods of one calendar year each from 2001 to 2003 and found that the number of efficient funds in the calendar year 2003 were much higher than in the calendar year 2001 and 2002.

- Kaur A. (2011) tested 37 equity oriented mutual fund schemes for the period of eight years i.e. from April 1, 2003 to March 31, 2011 by applying parametric and non-parametric techniques. She found a little evidence of performance persistence in the sample mutual fund schemes.

Objective of Study

- ❖ To analyze the investors awareness and perception regarding investing in mutual funds.
- ❖ To study the diversification of Mutual Fund.
- ❖ To study the priority of Retail Investors during Investment.
- ❖ To study the satisfaction level of respondents in terms of consistent returns in Mutual Fund.
- ❖ To know the steps of how to invest in mutual fund by investor.

RESEARCH METHODOLOGY

Research is an essential and powerful tool in leading man towards progress, and indeed in any field without systematic research, there would be very little progress. The secret of our cultural development has been research pushing back the areas of ignorance by discovering new truth, which, in turn, leads to better ways of doing things & better products. Research may be defined as a documented prose work which means organized analysis of the subject based on borrowed materials with suitable acknowledgement and consultations. Research is basically intentional and planned gain of some knowledge about a problem. Research in management is particularly important to find out different phenomenon. Management research comes with a preview of social science research and there are other different types of research, which broadly fall into the category of physical science research.

Research Methodology is a way to find out the result of a given problem on a specific matter or problem that is also referred as research problem. In Methodology, researcher uses different criteria for solving/searching the given research problem. Different sources use different type of methods for solving the problem. If we think about the word "Methodology", it is the way of searching or solving the research problem. (Industrial Research Institute, 2010).To define any research problem & give a suitable Solution for any research, a sound research plan is inevitable. Research Methodology underlines the various steps involved by the researcher in systematically solving the problem with the objective of determining various facts.

Research Design:

Depending upon the objectives of the research the most suitable marketing research design is

"DESCRIPTIVE RESEARCH".

Method of Data Collection:

The information used in this research was through primary sources i.e. personally interacting the respondents.

Instrument of Data Collection:

The instrument used to collect the data was a structured questionnaire. A list of questionnaire was prepared which could give relevant information when answered by the respondents.

Sample size:

The sample size was of 100 respondents.

Target Segment:

Investors of Mutual Fund.

Sampling Technique:

The sampling technique used in this study was convenience sampling.

Data Representation:

Analysing the collected data and reporting the findings. Finally the data collected, was thoroughly analysed and processed to obtain the required information. The data has been summarized in the form of graphs.

DATA ANALYSIS

Ques.1 - Age-Group of the Respondents-
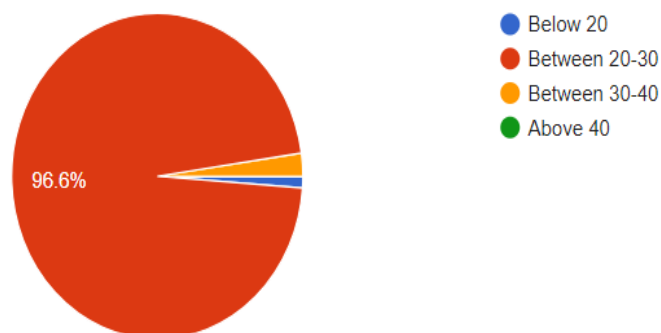
INTERPRETATION: - From above chart it is inferred that the respondents are between 20-30 years of age.

Ques.2 – Qualification:
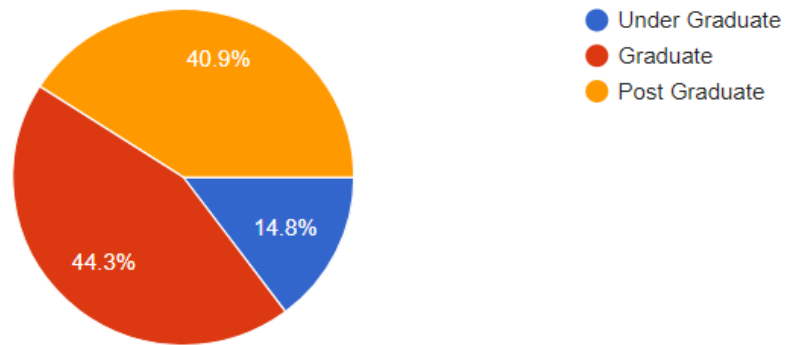
INTERPRETATION: - From above chart it is inferred that the majority of the respondents are graduates.

Ques.3- Occupation:
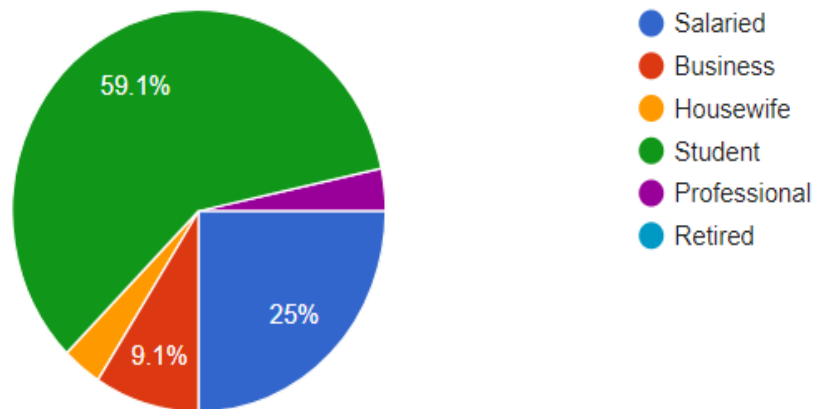
INTERPRETATION: - From above chart it is inferred that the majority of the respondents are students.

Ques.4- Annual Income:
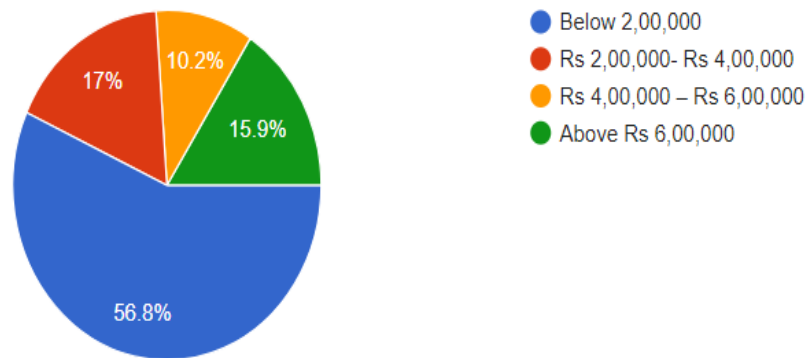
INTERPRETATION: - From above chart it is inferred that Income of majority of respondents is below 2Lakhs p.a.

From Questions 1-4, with the help of the charts and the responses by the respondents, the background of majority of the respondents is identified.

Ques.5 -Are you aware of the following Investment Avenues?
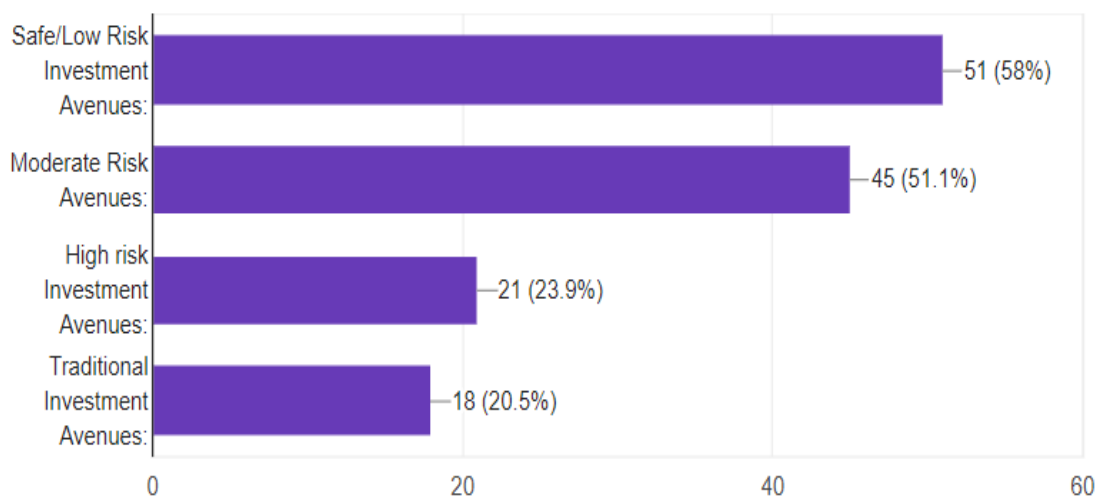
INTERPRETATION: -:-From above figures it is observed that when asked about awareness of different Investment Avenues, it was found that most of the respondents are aware and would like to invest in safe & low risk Investment Avenues like Fixed Deposits, Saving Account, post office savings, PPF etc.

Ques.6 –What is your awareness level related to Mutual Fund Investment? (1 being less aware and 5 being most aware)
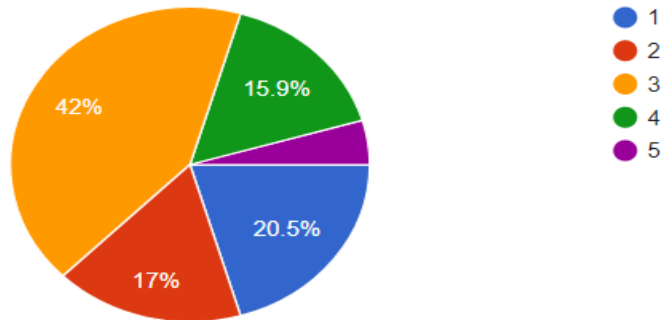
INTERPRETATION: - From above chart it is inferred that the majority of the respondents are aware of the mutual fund and its related benefits, some guidance can influence them to Invest.

Ques.7 – What are the important factors guiding your investment decisions?
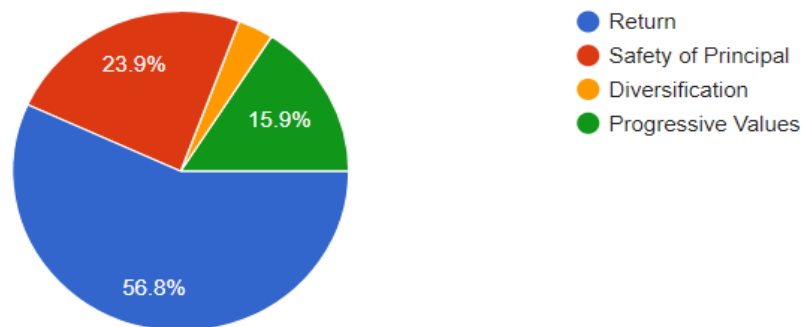
INTERPRETATION: - From the above chart it is inferred that rate of return is the utmost factor the investors care about before investing in any mutual fund scheme, followed by the safety of the principal amount invested.

Ques.8 – What is your Investment Objective?

INTERPRETATION: - From the above chart it is inferred that the investors' objective to invest in different mutual fund scheme is to look for the long term growth followed by the income generated through it.

Ques.9- What is the purpose behind Investment?
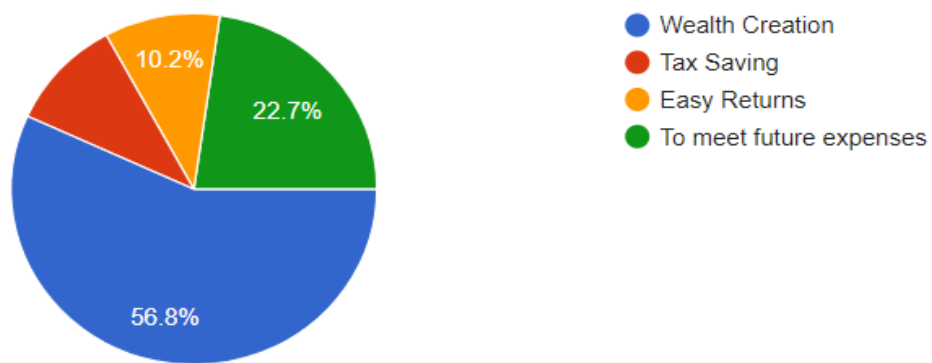
INTERPRETATION: - From the above chart it is inferred that wealth creation is the basic and foremost reason behind investing. In order to meet the future requirements and to generate the wealth from the money earned today, the investors invest in various mutual fund schemes.

Ques.10- What percentage of customer's savings have you invested in Mutual Fund?
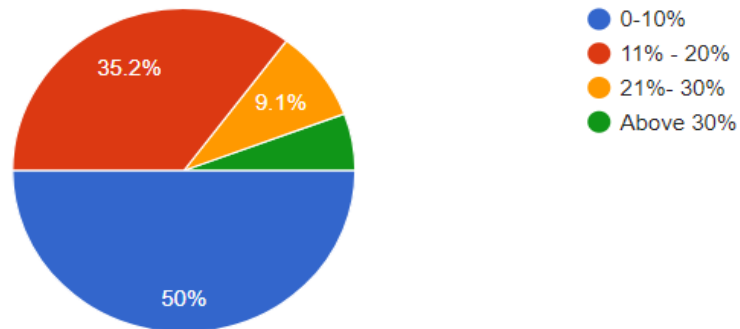
INTERPRETATION: - From the above chart it is inferred that today people are well aware of the benefits and need of investing, although the majority of respondents, invest only 10% of their savings but they are investing.

Ques.11- Which route of Investment does a customer choose while investing in Mutual Fund Scheme?
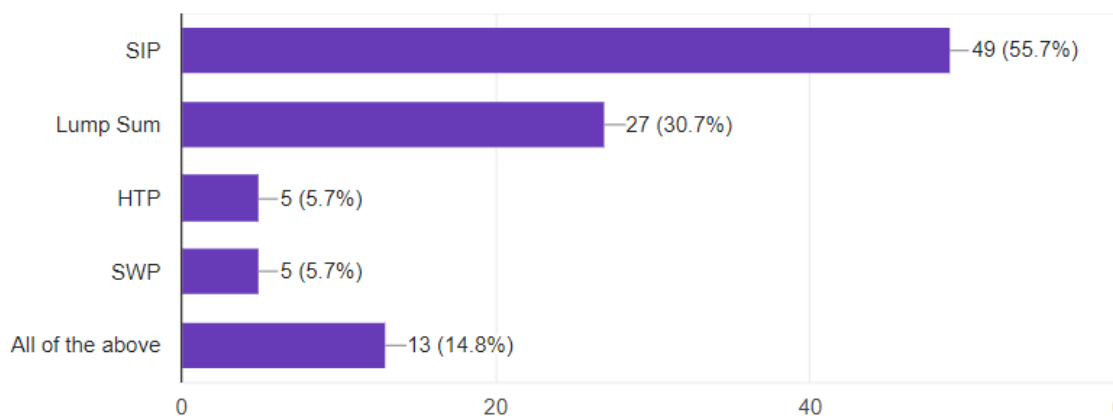
INTERPRETATION: - From the above chart it is observed that most of the respondents prefer Systematic Investment Plan as a mode of investment.

Ques.12- Which of the following best describes your knowledge on investments?
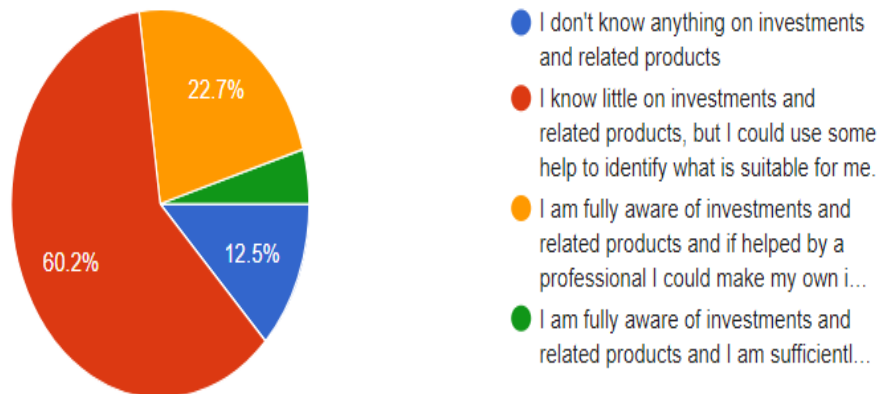
Legend:
- ● I don't know anything on investments and related products
- ● I know little on investments and related products, but I could use some help to identify what is suitable for me.
- ● I am fully aware of investments and related products and if helped by a professional I could make my own i...
- ● I am fully aware of investments and related products and I am sufficientl...

INTERPRETATION: - From the above chart it is observed that majority of the respondents have little knowledge about the investments but they are interested to seek help from experts before investing.

Ques.13- What is the nature of your Mutual Fund Investment?

Legend:
- ● Open-Ended Scheme
- ● Close Ended Scheme
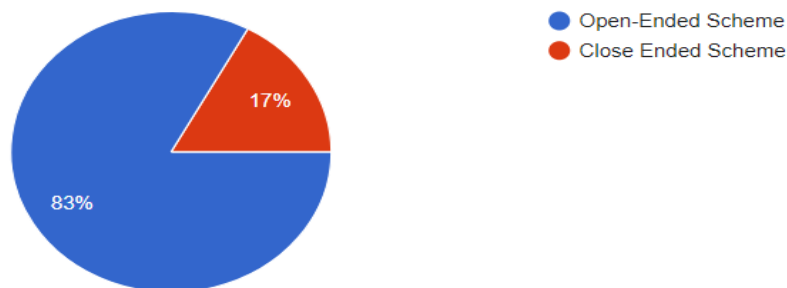
INTERPRETATION:- From the above chart it is observed that majority of the respondents have invested in open-ended schemes so that after certain period of time they can fetch their money from that scheme and if not profitable can re-invest in other schemes.

Ques.14- What is the worst return that you could tolerate from your investment?
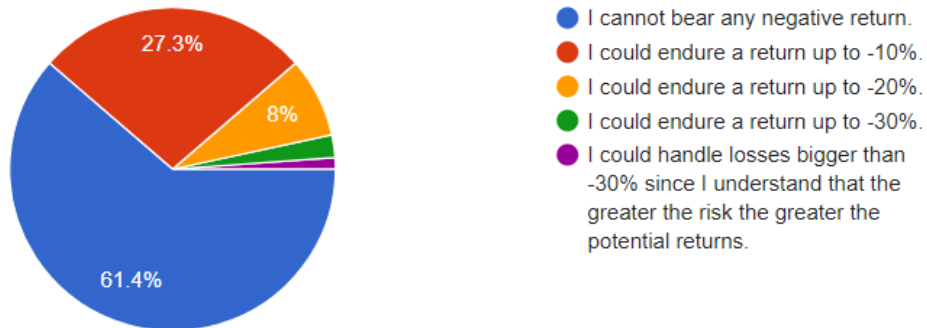
INTERPRETATION: - From the above chart it is observed that the respondents are risk-averse and will not bear any negative return on their investments.

Ques.15- What is your opinion on an investment that is volatile in nature, but can lead to potentially higher long term returns?
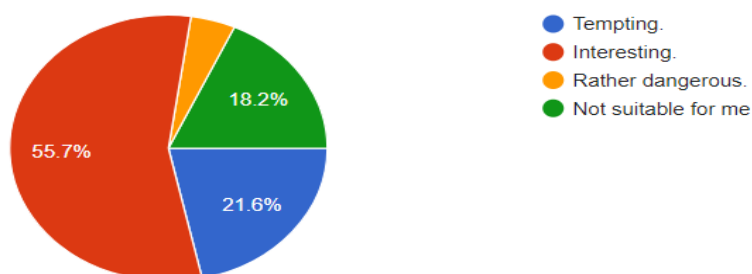
INTERPRETATION: - From the above chart it is inferred that most of the respondents find these investments interesting that lead them to invest more and potentially higher long term returns.

Ques.16- What is the source of Investment advice?
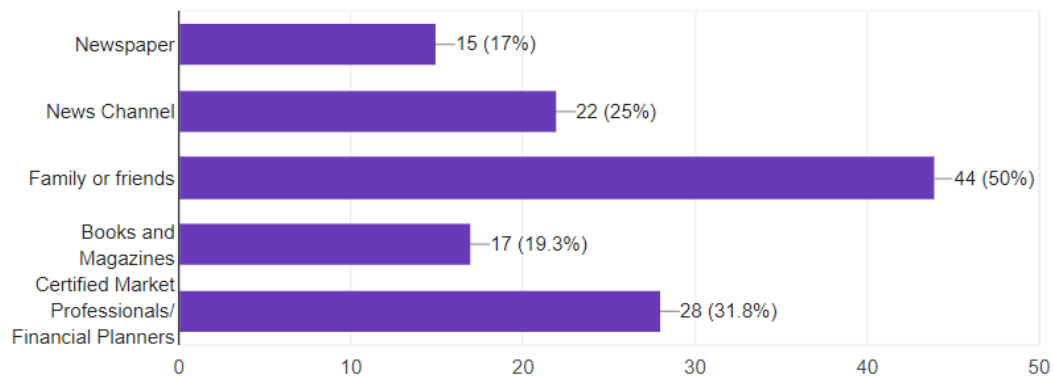
INTERPRETATION: - From the above chart it is observed that majority of the respondents rely on the advice and suggestions of their friends and family and invest accordingly.

Ques.17- Mode of investment in mutual fund?
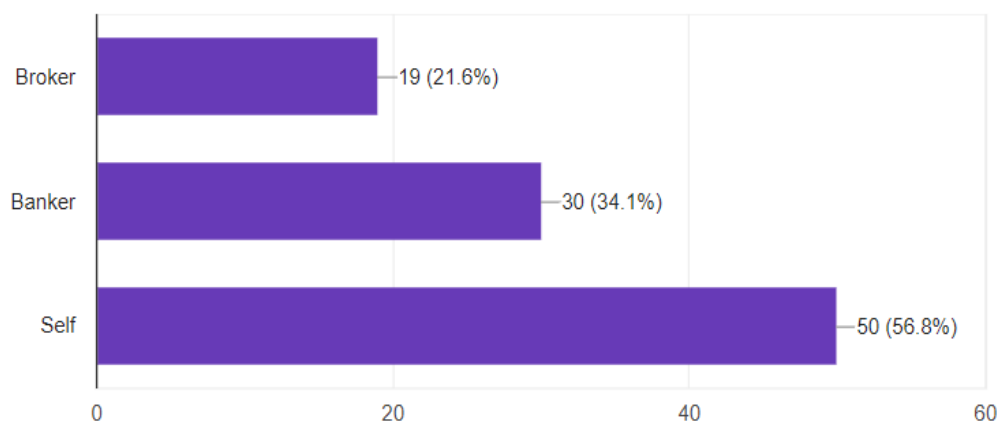
INTERPRETATION: - From the above chart it is observed that the respondents prefer to invest themselves instead of paying their instalments through broker or by bank.

Ques.18-Which risk level would you consider before Investing in any Mutual Fund Scheme
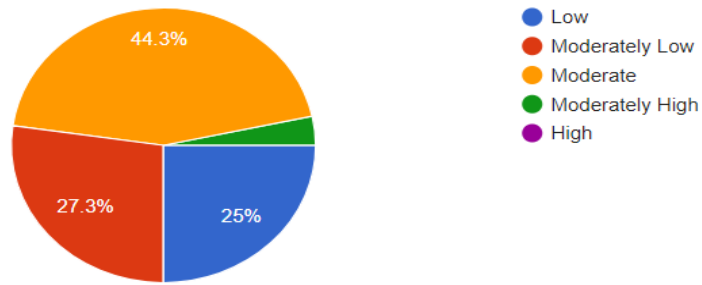
INTERPRETATION: - From the above chart it is observed the majority of the respondents are moderate towards going through any risk on their investments.

Ques.19- Do you consider any time Horizon before Investing in any Mutual Fund Scheme?
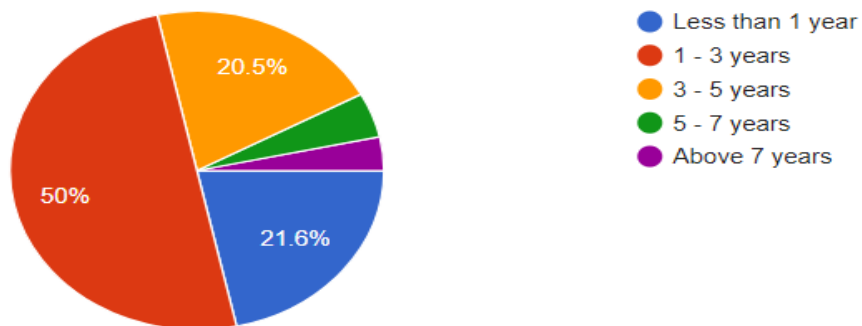
INTERPRETATION: - From the above chart it is observed that the majority of the respondents are investing in mutual funds for 1-3 years.

Ques.20- Do you have any goal in mind while investing in Mutual Fund Scheme?
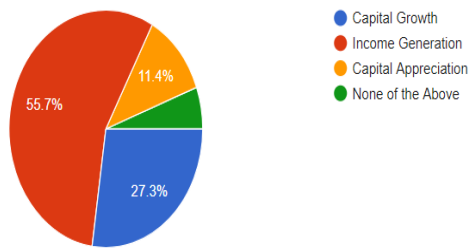
INTERPRETATION: - From the above chart it is inferred that majority of respondents are looking to generate income through the principal amount investment through Mutual fund.

Ques.21- At what frequency do you invest in Mutual Fund scheme?
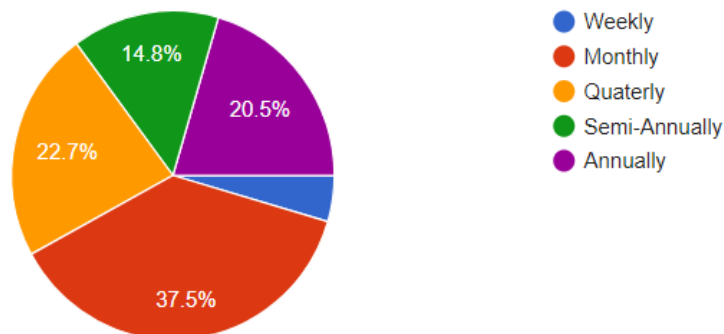
INTERPRETATION: - From the above chart it is inferred that majority of the respondents invest in these mutual fund scheme monthly through SIPs.

Findings of the Study

➢ The people of Bareilly region are aware about the mutual funds and their utilities.

➢ Some people are ignorant towards mutual funds, as many of the respondents do not have full knowledge about mutual funds.

➢ People tend to invest more in saving and fixed accounts.

➢ Most of the respondents belong to the 20 to 30 age group.

➢ Most of the respondents wish to opt for Systematic Investment Plan.

➢ Tax benefits, high return, price and capital appreciation are some of the major factors which the investor will look into while investing in mutual fund. Liquidity, diversification, risk and brand image also have influence on the final mutual fund purchase decision of the investor but not as much as the former.

➢ Prospective retail investors seem to seek expert advice and rely on it the most while taking their investment decision.

➢ Retail investors' gathers information about the performance of various mutual funds mainly from brokers, financial consultants, financial institutions, internet, TV channels and magazines/newspapers respectively

➢ Mutual funds are gaining popularity. Even though the total money invested is small, but the number of investors are large and they would like to invest more in these in future.

➢ Investors have started to invest in mutual fund the most since three years, one year, two years, five years and four years respectively. Only a few investors have investment in mutual fund since more than five years

➢ The level of satisfaction of investors regarding mutual fund on the basis of risk exposure is average and that of overall experience is also average.

➢ Tax benefit, return potential, liquidity, low cost and transparency are the major factors that motivate a retail investor to invest in mutual fund. Economies of scale are also a motivating factor to a certain extent.

➢ Many of the investors are aware of mutual funds but most of their perception towards them is not positive.

➢ Investors are mainly concerned with the risk factors of mutual funds and are not directing towards them.

➢ The investors who have invested in mutual funds mainly go for it because of the Liquidity matter and Tax exemption.

➢ Most of the people don't know the advantages of mutual funds and the various types of mutual funds.

➢ A common investor basically looks for the Tax exemption and Safety &security while investing.

CONCLUSION

❖ In the growing era of competition, India's financial sector is booming. Hence, there lies a need of financial planning for each individual by choosing the right platform and product for investment purpose, involving high risk & high return.

❖ According the data collected, it has been found that people have great awareness about various companies of mutual fund but on the other hand a lot many people are risk averse and hence scared of investing their money that is why they are investing only 10% of their savings in investments.

❖ The mutual funds have emerged as one of the important class of financial intermediaries which cater to the needs of the retail investors.

❖ The major factors influencing the investment decision of retail investors are tax benefits, high return, price and capital appreciation.

❖ Equity based schemes are the most preferred.

❖ Bitter past experience is the major preventing factor while considering investment decisions.

❖ Investors satisfaction with regard to mutual fund investors may be rated to average

❖ The awareness level of mutual fund among the investors are very low because of only having the partial knowledge about the mutual fund which prevent them to Invest in mutual fund to avoid risk bearing factor and fear of losing money.

❖ The objective of study to know about the perception of common investor and the awareness level of mutual fund among the investors are very low because of only having the little knowledge about the mutual fund which prevent them to invest in mutual funds.

❖ I observed that there is enough money with them in tire two cities of people but they are in confusion in absence of awareness.

❖ The future of Mutual funds is bright, one has to appreciate the fact that every aspect of life has its periods of high and lows. The poor performance of many mutual funds schemes may be mostly attributed to the quality of personal involved and their matter of fund management.

References:

➢ De Bondt, W.F.M., and R. Thaler (1985), "Does the stock market overreact?" Journal of Finance 40:793−805.

➢ Dunn, Patricia C, and Rolf D. Theisen. "How Consistently Do Active Managers Win." Joumal of Portfolio Management, 9 (1983), 47-50.

➢ Ippolito, R., 1992, "Consumer reaction to measures of poor quality: Evidence from Mutual Funds", Journal of Law and Economics, 35, 45-70.

➢ Madhusudan V. Jambodekar (1996), "Marketing Strategies of Mutual Funds – Current Practices and Future Directions", Working Paper, UTI – IIMB Centre for Capital Markets Education and Research, Bangalore

➢ SEBI – NCAER, Survey of Indian Investors, SEBI, Mumbai, 2000.

➢ Sikidar, Sujit, Singh, Amrit Pal, "Financial Services: Investment in Equity and Mutual Funds – A Behavioural Study", in Bhatia B.S., and Batra G.S. (ed.) Management of Financial Services, Deep and Deep Publications, New Delhi, pp. 136-145. 1996.

➢ Shankar, V. (1996). "Retailing mutual funds: A consumer product model", The Hindu, July 24, p 26.

➢ Goetzman, W. N. (1997). "Cognitive dissonance and mutual fund investors", The Journal of Financial Research, Vol. 20, pp 145-158.

➢ Carhart, M.M. (1997) On Persistence in Mutual Fund Performance. Journal of Finance, 52, 57-82

A study of Industry 4.0 and Challenges of Manpower Planning

Shashikant Hadwale
Jamnalal Bajaj Institute of Management Studies
University of Mumbai

Abstract:

The objective of this paper is to provide a comprehensive understanding of the Fourth Industrial Revolution (Industry 4.0) and its influence on Human Resource Planning, challenges, issues, components, progress with relevance of Industry 4.0 implementation. This paper is one of the initial attempts to draw the attention towards the challenges of human resource management while manpower forecasting in industry 4.0, as most of the recent studies are discussing the technological shift and change in manufacturing processes considerably. This paper also suggests empirical and qualitative investigation on HRP, competency and staffing, approaches in the context of industry 4.0. It is done by integrating the existing literature with the logical beliefs.

Overview:

The Indian manufacturing industry is passing through a massive transformation phase as the global industrial manufacturing has entered into the Fourth Industrial Revolution therefore it's important to know how the human resource planning will affect due to digitalization and constant changing human resource requirements while fulfilling customer demand, responding to market needs and remain sustainable in the business.

The key issue forming anxiety amongst human resource professionals about the advent of Industry 4.0 is an impact on jobs, required competency and manpower forecasting. The new industrial revolution looks for high technology options. Retraining and up skilling to make the workforce ready for the future challenges, take advantage of technological opportunities and smooth transition to the task of technology adaption.

The industries witnessing profound shifts across all industries, marked by the emergency of new business module (Marolt, Lenart, Meletic, Kljajic B., & Pucihar, 2016) Gates Douglas (2017), states that manufacturing executives are struggling to develop a realistic and practical

roadmap for driving this transformation over the next five years. Some of the organizations want to move too quickly for fear of disruption (and that the hype of Industry 4.0 may not live up to reality. But nobody wants to be left behind technologically, commercially or in the race for talent. The impact of technology on human labor not only from the point of view of reducing the physical effort of workers and of tremendously increasing the productivity and output, but also from the point of view of the risk of eliminating human labor because of replacing it with mechanical equipment (Florin Bonciu)

After this introduction about the new context phenomenon of "Industry 4.0", a comprehensive definition of this new concept and explained the research methodology. Then presented several points of view about challenges and issues of Human Resource Planning in the Industry 4.0, and most benefits of this new industrial paradigm are also described. Finally, this paper is drawing a conclusion and suggesting future research.

Research Questions:

RQ 2: How does the Industry 4.0 change Human Resource Planning?
RQ 3: How can organization be prepared for the challenges of the Industry 4.0 in their Human Resource Planning?

Significance of Study:

The significant of study about the advent of Industry 4.0 is to understand an impact on jobs, required competency and manpower forecasting. The new industrial revolution looks for high technology options. Retraining and up skilling to make the workforce ready for the future challenges, take advantage of technological opportunities and smooth transition to the task of technology adaption.

The study is further significant for Human Resource Leaders to **awaken the imagination on the challenges and preparedness** for upcoming changes in manufacturing process, digitalization and transformation in the era of Fourth Industrial Revolution.

The fourth revolution is heavily based on the integration of physical, digital and biological structures, especially the Internet and the industrial value chain (Hermann, Pentek, & Otto,

2016), with significant impacts on people, businesses and governments (Schwab, 2015). Industry 4.0 is also seen as closely related to advances in AI (Lee, Davari, Singh, & Pandhare, 2018; China Daily, 2018), what makes us confident that great opportunities exist for research on the confluence of intelligent technologies, the development of human skills, and new organizational configurations, routines and expected outcomes.

Research design:

The research described in this paper has largely been carried out through various types of literature review considering the electronic databases including scientific papers, journals, articles, magazines, newspapers and consultants' reports. Throughout the development of this paper, the main purpose is to understand the scope of Industry 4.0 definitions and challenges of Human Resource Management. The methodology enabled to achieve an overall understanding of the field and current developments and practices described in multiple studies.

FOURTH INDUSTRIAL REVOLUTION (INDUSTRY 4.0)

The Global manufacturing industries have undergone three main revolutionary phases and shown significant changes in their workings and dealing with Human Resources.

The First Industrial Revolution (1R) was the Steam Revolution (1760-1840), this included going from manual production to the use of steam-powered engines and water as a source of power

Second Industrial Revolution (2R) was the Electrical Revolution (1870-1914). The electrification of factories contributed hugely to production

Third Industrial Revolution (3R) was the Electronics revolution (1950-1970) which was the revolution of IT and ITes industry growth and establishments.

Fourth Industrial Revolution (4R) is the current revolution having conceptual frame work that includes rising technologies such as Internet of Things (IOT), Artificial Intelligence (AI), Big Data, Robotics, 3D printing. Machines will be flawlessly connected to each other in a factory to manufacture goods, converse with each other for anticipating problems before they arise and devise solutions without human interference.

The term Industry 4.0 was first publicly introduced in 2011 as "Industry 4.0" by a group of representatives from different fields (such as business, politics, and academia) under an

initiate to enhance the German competitiveness in the manufacturing industry. The German federal government adopted the idea in its High-Tech Strategy for 2020. Subsequently, a Working Group was formed to further advice on the implementation of Industry 4.0. The World Economic Forum in Davos has outlined that the Fourth Industrial Revolution has the most exciting and promising technological innovations of our day in fields including Artificial intelligence, machine learning, robotics, nanotechnology, 3-D printing etc.

The Term Industry 4.0 has been defined by various scholars and consultants (Adapted from Huang, 2017) as summarized below in their own way, however the gist of the definition lies within the fourth revolution and digitalization in manufacturing process;

i. The McKinsey Digital 2015 report summarized that the Industry 4.0 seen as a digitization of the manufacturing sector, with embedded sensors in virtually all product components and manufacturing equipment, ubiquitous cyber physical systems, and analysis of all relevant data.

ii. According to MacDougall, 2014 Industry 4.0 or Smart industry refers to the technological evolution from embedded systems to cyber-physical systems. It connects embedded system production technologies and smart production processes to pave the way to a new technological age which will radically transform industry and production value chains and business models.

iii. The fourth industrial revolution, focuses on the end-to-end digitization of all physical assets and integration into digital ecosystems with value chain partners (Geissbauer et al. 2016)

iv. The term Industry 4.0 stands for the fourth industrial revolution and is best understood as a new level of organization and control over the entire value chain of the life cycle of products, it is geared towards increasingly individualized customer requirements (Koch et al. (2014))

v. Industry 4.0 is the sum of all disruptive innovations derived and implemented in a value chain to address the trends of digitalization, automization, transparency, mobility, modularization, network collaboration and socializing of products and processes (Pfohl et al. 2015)

The disruption of incumbents and the reshaping of production, consumption, transportation and delivery systems. The big upheavals that this revolution brings are the changes in the

economies and jobs: by automating processes, certain jobs disappears, but at the same time new jobs are developed, which are better paid, but also require new skills that allow rapid adaptation, entrepreneurship and innovation. The unstoppable shift from simple digitization (the Third Industrial Revolution) to innovation based on combinations of technologies (the Fourth Industrial Revolution) is forcing companies to re-examine the way they do business. With the development and dissemination of technologies for universal connectivity and autonomous, cyber-physical systems.

Digital connectivity enables an automated and self-optimized production of goods and services, including deliveries, without human interventions. Since the essence of industrial revolutions and in particular the 4th one, is to decrease costs of production by removing or reducing the human interaction, in other words automation, and this would heavily affect the labor force employed in the manufacturing (Majid Ziaei Nafchi and Hana Mohelsk, 2018)

As it is the era of technology and competiveness, recently the industry 4.0 concepts has become an increasingly important issue, being discussed and researched by academics, consultants, and companies. However, despite the increasing interest in the industry 4.0 topic, it's still a non-consensual concept. There are still some vague idea about this new manufacturing paradigm, regarding its implication and consequences. Also most companies and factories are not aware of the challenges they may face when they want to implement the industry 4.0 background Defining the most suitable manufacturing model and planning the target roadmap in order to address the new industrial paradigm's challenges (Mac dougall, 2015).

HUMAN RESOUCE PLANNING AND INDUSTRY 4.0

The growth and success of any Organization requires careful planning of its available and future Human Resources. The task of Human Resource planning becomes challenging and critical when there is a volatile business situation due to revolutionary changes in the global industry environment.

The focus of HR planning is to ensure the organization has the right number of human resources, with the right capabilities, at the right times, and in the right places. In HR planning,

an organization must consider the availability and allocation of people to jobs over long periods of time, not just for the next month or even the next year. Additionally, as part of the analyses, HR plans can include several approaches. Actions may include shifting employees to other jobs in the organization, laying off employees or otherwise cutting back the number of employees, retraining present employees, and/or increasing the number of employees in certain areas. Factors to consider include the current employees' knowledge, skills, and abilities and the expected vacancies resulting from retirements, promotions, transfers, and discharges. To do this, HR planning requires efforts by HR professionals working with executives and managers. The HR Best Practices box illustrates how several firms have made HR planning important (Mathis and Jackson, 2010).

According to research report presented by the World Economic Forum (WEF), it is estimated that changes caused by the Fourth Industrial Revolution between 2015 and 2020 will mean the loss of 7.1 million jobs worldwide (over 60% of which will be in administration) and the creation of 2 million new job positions in the fields of mathematics, computer science, architecture and engineering. This report and statistic is alarming situation for all Human Resource Management leaders for forecasting required manpower and their transition.

The detail and direction of each of these will be fashioned by the organization's overall strategic plan. If the strategic plan indicates a development of new products or services, then the continuity plan is crucial in ensuring that staffs are recruited, trained and motivated in time for the launch. If divestment of certain activities is decided, then a strategy and detailed plan needs to be in place to prepare for the change, be it through redundancy or transfer of undertakings. If the strategic plan focuses on increased productivity or improved workforce relationships, then the HRP needs to be in place to accomplish this objective (Stredwick, 2005).

Human Resources planning have been a function of management since the origins of the modern industrial organization. Economist Alfred Marshall observed in 1890 that the head of a business must assume himself that his managers, clerks and foremen, division of labour, specialization, organization of management into levels, work simplification, and application of standards for selecting employees and measuring their performance were all principles applied early in industrial management. Planning for the staff for work is not a recent notion. During the first part of the century, the focus in manpower planning was upon the hourly production worker. The aim of improving efficiency through work engineering and early industrial

psychology application was consistent with the need to improve productivity and introduce greater objectivity to personnel practices. HRM focus intensified on employee productivity and on the availability of the competent managerial personnel. New technologies and a new awareness of, and interest in behavioural aspects of work also complicated the manpower planning task. The expanded demand for high potential personnel in the 1960s resulted from high technology programs and rapid corporate expansion and diversification. In response, human resources planning practices attempted to balance supply and demand, particularly for managerial, professional and technical personnel (Mahapathro 2010).

Achieving successful implementation operational activities in Fourth Revolution it requires effective Human Resource Planning in order to make available, the necessary manpower and skills so as to effect such implementation. The notion of competitive advantage has created diligence in enterprises operations since the business environment is clustered with intense competitive dynamics. High quality employees whose knowledge capital is enriched with both tacit and explicit are a desire of large scale enterprises and a pride of successful organisations. Considering the relevance of this study in the business world, it is noteworthy to large scale enterprises and all business organizations since the implementation of their operational activities cannot be accomplished without effective human resource planning which makes available competent personnel to undertake such tasks. The study is also important to management professionals, specifically human resource management practitioners as they are the technocrats in managing enterprises' workforce.

Competency and Human Resources Planning:

The perspective of the employee's readiness for Industry 4.0 according to Hecklau et al. (2016) is also categorized into four competencies. These competencies are (1) Technical competencies: It is comprised of state-of-the-art knowledge, technical skills, process understanding, media skills, coding skills, and understanding IT security. (2) Methodological competencies: This encompasses creativity, entrepreneurial thinking, problem solving, conflict solving, decision 30 making, analytical skills, research skills and efficiency orientation. (3) Social competencies: As noted, this include personal skills like intercultural, language, communication, networking, and ability to work in a team, ability of cooperative & compromising, ability to transfer knowledge and leadership skills and (4) Personal

competencies: This competency entails flexibility, ambiguity tolerance, motivation to learn, ability to work under pressure, sustainable mindset and compliance.

Recruitment and Staffing:

Fourth Industrial Revolution is all about digitalization and technology that will completely change the traditional way of recruitment. Hiring manpower with an aim that they will retire in the same organization has become a history. HR leaders are required to search and hire talent anticipating constant change in process. Times have changed and so have perspectives about talent sourcing, selection, engagement and retention. Experts say we are currently experiencing the Fourth Industrial Revolution and it will have an impact on how organizations look at recruiting and engaging with talent. But whether a dramatic change is really underway or whether the base challenges remain the same, is something most businesses are still trying to understand.

In industry 4.0 hiring should be on the basis of variety of skills, and heterogeneous knowledge and these should be tested in the screening process before selecting the candidate. Organizations should spend considerable effort in selecting the right candidate for every job by using extensive recruitment and selection procedures. For example, to hire innovative employees recruiters should focus on identifying the attributes necessary for innovative behaviour e.g. openness to experience, which can be evaluated through psychometric testing in the selection process. As openness to new experience is characterized by active imagination, inner feeling attentiveness, variety preferences, intellectual curiosity, creativity, and flexible thinking. Furthermore people who are highly open to new experience show more positive attitude toward learning. In the process of recruitment and selection, organizations should also evaluate the goal orientation of the candidate, which can be learning orientation and performance orientation. To promote innovation and learning in the organization, recruiters should prefer candidates with high learning orientation. As employees with learning goal orientation prefer to engage in challenging tasks, are eager to improve themselves, are eager to develop a new set of skills, and tend to achieve mastery. In the recruitment process focus on the future potential of the candidate is also very important. Saqib Shamim, Shuang Cang, Hongnian Yu1, Yun Li (2016)

It is described as "the way that the position and the tasks within that position are organized, including how and when the tasks are done and any factors that affect the work such as in what order the tasks are completed and the conditions under which the tasks are completed". Job design to promote the climate of innovation in learning should be characterized by job rotation, flexible assignments in multiple areas, the extensive transfer of tasks and responsibilities to the employees. Furthermore job design should facilitate team work and collaboration, and requiring skills variety. In the industry 4.0 environment characterized by change and innovation, such a job design can help the organization to adjust according to the business environment.

Challenges of Human Resource Planning in Fourth Revolution:

In the Fourth Industrial Revolution, Human Resource Planning has become an integral part of strategic planning of the Organization The adoption of Industry 4.0 will have a profound impact on the manufacturing workforce. Organizations should start planning the transition today (KPMG report, 2017). HRP provides inputs in strategy formulation process in terms of deciding whether the organization has got the right kind of human resources to carry out the given strategy. HRP is also necessary during the implement at in the form of deciding to make resource allocation decisions related to organization structure, process and human resources. IT is seen that HRP play as significant role as strategic planning and HR issues are perceived as inherent in business management.

1. Digitalization continues to be a challenge in manufacturing, and it's a cultural shift for businesses seeking to remain competitive in their established sectors. In fact, even though the digitalization trend is forecast to spur more new manufacturing jobs over the decade, the current, aging workforce and the well-documented skills gap indicate that high number jobs may not be filled. In other words, digitalization may succeed but manufacturers may fail as a result due to skill gap and further effect on Human Resource Planning.

2. The fourth industrial revolution is considered by many to be the most important societal and economic trend in the world—one that will fundamentally change the nature of work, business, and society in the coming decades (Arntz, Gregory, & Zierahn, 2016; Brynjolfsson & McAfee, 2014; Ford, 2015; Frey & Osborne, 2013). These changes might lead to the elimination of thousands of jobs and the disappearance or fundamental change of many current occupations. At the same time, new occupations, new

industries, and fundamentally new ways of work will likely emerge (Brynjolfsson & McAfee, 2014). It seems clear that digitization and automation might therefore be one of the most important issues to shape the future career development and Human Resource Planning.

3. The rapid technological and digital changes in the manufacturing industries may lead to have diverse skill sets for shop floor operators. Joining with certain skill and continue the same till retirement or separation by doing the same job with available skill set will be a history as it will not supportive in the Fourth Industrial Revolution. The Human Resource Managers shall consider the change skill set of the operators and associate labor in the manufacturing since it will be a considerable impact on human resource planning.

Conclusion:

1. Since the Industry 4.0 is taking shape, its common agreement in Organizations, Management Leaders, education, and business that digitization and automation will lead to fundamental changes in Human Resource Planning.

2. Human Resource Planning will operate in an environment of ambiguity, which may make decision making risky and if changes take place the ability to revisit decisions and modify them is imperative to cut down the losses and reorient the business.

3. Contents of the reviewed literature shows that human resource planning cannot be undertaken without the consideration of an assessment of the digitalization requirement in the organization, updated skills and competences and also the development of forecasts for the demand and supply of labour in view of Fourth Industrial Revolution.

4. In the fourth industrial revolution and on adaption of digitalization mechanical skills demand will decreased resulting unemployment and challenge of separation of blue color employees may lead to increase in industrial disputes in the country.

This paper offers direction for future research on management practices and manpower planning in the context of industry 4.0. Empirical and quantitative research in the future can validate the arguments made in this study based on the integration of literature and logics. For future research, interview based study to validate the argument is required in the context of industry 4.0, followed by a questionnaire based survey to test the findings by quantitative

techniques. Unit of analysis should high tech enterprises involved in smart manufacturing, and the implementation of CPS.

References:

Klaus Schwab. (2015). Shaping the future of the Fourth Industrial Revolution. A guide to building a better world.

Deloitte. (2015). Industry 4.0. Challenges and solutions for the digital transformation and use of exponential technologies. 45774A Deloitte Zurich Switzerland 2015.

McKinsey and Company. (2015). Industry 4.0: How to navigate digitization of the manufacturing sector. Tech. rep., McKinsey and Company, New York City, New York (NY).

World Economic Forum (2016), "The future of jobs – employment, skills and workforce strategy for the fourth industrial revolution, global challenge insight report", World Economic Forum, https://www.weforum.org/press/2016/01/five-million-jobs-by-2020-the-real-challenge-of-the-fourth-industrial-revolution/

Barbara M., Gabriele B., Stefano U., Domenico S., Stefano F. (2017). How will change the future engineers' skills in the Industry 4.0 framework? A questionnaire survey. 27th International Conference on Flexible Automation and Intelligent Manufacturing, FAIM2017,

Schmitt, K. (2017). Top 5 Reasons Why Industry 4.0 Is Real And Important. Digitalist Magazine, Accessed 25th February, 2019
https://www.digitalistmag.com/industries/2013/10/15/top-5-reasons-industry-4-0-real-important-0833970

Saurabh V., Prashant A., and Santosh B. (2018). Industry 4.0 – A Glimpse. 2nd International Conference on Materials Manufacturing and Design Engineering/ Procedia Manufacturing, Vol. 20, pp. 233–238.

Arntz, M., T. Gregory and U. Zierahn (2016), "The Risk of Automation for Jobs in OECD Countries: A Comparative Analysis", OECD Social, Employment and Migration Working

Papers, No. 189, OECD Publishing, Paris. http://dx.doi.org/10.1787/5jlz9h56dvq7-en, accessed on 15.02.2019

Huang T. (2017). Development of Small-scale Intelligent Manufacturing System (SIMS) - A case study at Stella Polaris. AS UIT Faculty of Engineering Science and Technology the Artic UNIVERSITY OF NORWYA.

Douglas K. Gates (2017) Industry 4.0: It's all about the people. KPMG report

Koch, V., Kuge, S., Geissbauer, R. and Schrauf, S. (2014). Industry 4.0: Opportunities and challenges of the industrial internet. Tech. Rep. TR 2014-2, PWC Strategy GmbH, United States, New York City, New York (NY).

Florin Bonciu, Evaluation of the Impact of the 4th Industrial Revolution on the Labor Market. Romanian Economic and Business Review – Vol. 12, number 2

Hans-Christian Pfohl, Burak Yahsi and Ta. (2015). The Impact of Industry 4.0 on the Supply Chain. Proceedings of the Hamburg Inter Innovations and Strategies for Logistics, Vol 20 (2015) pp. 30 – 58.
Mahapathro B.B. (2010), Human Resource Management, New Age International (P) Ltd, New Delhi – 110002.

Baena, F., Guarin, A., Mora, J., Sauza, J., and Retat, S. (2017). Learning factory: The path to industry 4.0. Procedia Manufacturing, Vol. 9, pp. 73–80.

China Daily. (2018, April 27). AI seen as driving force in industry 4.0. Retrieved from http://www.chinadaily.com.cn/a/201804/27/WS5ae29547a3105cdcf651ae80.html

Cordes, F., and Stacey, N. (2017). Is UK Industry Ready for the Fourth Industrial Revolution? Boston, MA: The Boston Consulting Group. Boston, MA, USA, 2017.

Majid Ziaei Nafchi and Hana Mohelská (2018) Effects of Industry 4.0 on the Labor Markets of Iran and Japan: The Economie Article

Dennis K., Nicolina P., and Yves-Simon G. (2017). Textile Learning Factory 4.0 – Preparing Germany's Textile Industry for the Digital Future. 7th Conference on Learning Factories, CLF 2017 Procedia Manufacturing, Vol. 9, pp 214 – 221

Fabian S. (2015). The Dynamics of the Digitalization and its implications for companies' future Enterprise Risk Management systems and organizational structures. MSc. in Business, Language and Culture: Leadership and Management Studies Copenhagen Business School, 2015.

Marolt, M., Lenart, G., Maletič, D., Kljajić Borštnar, M., & Pucihar, A. (2016). Business model innovation: insights from a multiple case study of Slovenian SMEs.

Lee, J., Davari, H., Singh, J., & Pandhare, V. (2018). Industrial artificial intelligence for industry 4.0based manufacturing systems. Manufacturing Letters, 18, 20-23.

Foidl H. and Felderer M. (2016). Research Challenges of Industry 4.0 for Quality Management. In Innovations in Enterprise Information Systems Management and Engineering, Springer, pp. 121–137.

Hans-Christian Pfohl, Burak Yahsi and Ta. (2015). The Impact of Industry 4.0 on the Supply Chain. Proceedings of the Hamburg Inter Innovations and Strategies for Logistics, Vol 20 (2015) pp. 30 – 58.

Hendrik U., Frank B., Egon M. (2017). Context related information provision in Industry 4.0 environments. 27th International Conference on Flexible Automation and Intelligent Manufacturing, FAIM2017, Modena, Italy, pp.796-805

Iyer, A. (2018). Moving from Industry 2.0 to Industry 4.0: A case study from India in leapfrogging. "Smart manufacturing" 15th Global Conference on Sustainable Manufacturing / Procedia Manufacturing, Vol.21 (2018), pp. 663–670

Stredwick John (2005), An Introduction to Human Resource Management, (2nd Edition), Elsevier Ltd., Burlington, MA 01803.

Lee, J., Bagheri, B., and Kao, H. A. (2015). A Cyber-Physical Systems architecture for Industry 4.0-based manufacturing systems. Manufacturing Letters, Vol. 3, pp. 18-23.

Lu, Y. (2017). Industry 4.0: a survey on technologies, applications and open research issues. Journal of Industrial Information Integration, Vol. 6, pp 1-10

Shamim, S., Cang, S., Hongnian Yu, Yun Li. (2016). Management approaches for Industry 4.0: A human resource Management perspective.

An empirical approach extending UTAUT2 with Value and Trust to investigate the factors influencing the usage of mobile banking by Indian customers

Raja Sankaran
Research Scholar
Indian Institute of Management, Ranchi
Ranchi

Shibashish Chakraborty
Assistant Professor
Indian Institute of Management,

Abstract

Mobile services have infiltrated virtually every aspect of people's lives. Technology has transformed the way banking is done with a radical shift to mobile banking by the financial sector. Enormous changes have occurred around payments that will do away the need for cash transactions, and a revolution is happening right now in India the way consumers shop and the move to digital money from the physicality of money (physical presence of money that one can touch, physically handover the currency). An empirical method extending the UTAUT2 model was used to study the factors that affect mobile banking usage by Indian customers. Understanding the underpinning theory, combining new constructs - trust and value dimensions (social, emotional, monetary & quality value) will help marketers to devise the strategy for customer adoption of mobile banking. An online survey method was used to empirically collect data of 171 Indian consumers using mobile banking applications. IBM SPSS and AMOS software were used to test the conceptual model developed using primary data and testing the research hypothesis. The factors Trust & Value components in this study were found to have a significant impact on the Behavioral Intent (BI) to continue to use mobile banking in India whereas Performance Expectancy (PE) & Effort Expectancy (EE) were found to be not significant. With these additional constructs, researchers can further study the influencing factors to adopt mobile banking and other ICT related Mobile Financial services. This research paper is the original work of the authors and has integrated extant literature on mobile banking and value components to form a comprehensive model for technology adoption.

Keywords: UTAUT2, value, trust, mobile banking, India

Introduction

With the advent of urbanisation and people migrating from remote villages to cities in seek of work, the IMPS is a real boon of a quick transfer of money to their family members at a remote location rather than using money order (services offered by the post office in India). Mobile phones (primarily basic phones) penetration continues to be on the trajectory growth noticed in India with 478 m mobile internet users by June 2018 (*Mobile Internet Report*, 2017) and also used by families who do not have a savings bank account.

Mobile banking is defined as "the act of making financial transactions on a mobile device (cell phone, tablet, etc.)" (Barnes & Corbitt, 2003). Some of this activity can be paying utility bills or transferring money using a mobile app. The ability to bank anywhere and at any time is the focal point of the advantage offered by mobile banking.

After demonetization of currency notes in India, the growth of mobile banking with new options like IMPS, Bhim app (Bharath Interface for Money), UPI (Unified Payment Interface) being introduced which gives a boost to the mobile banking in the country along with the incentives being offered like cash backs and zero transaction fees for making UPI payments including micropayments. With the advancements in mobile technology (3G and 4G availability) and reduction in mobile data cost (JIO in India introduced cost-effective offers) combined with government initiative of "Digital India" encouraged customers to move from cash to m-banking and digital payments. The need is to create a mindset of "digital first".

Worldwide m-banking has been discussed only in a few studies (Berraies, Ben Yahia, & Hannachi, 2017) and no research in India on value dimensions especially after the demonetization. The study aims to fill this research gap by extending the UTAUT2 model and providing an insight into the consumers adopting mobile banking.

Objectives of the study are (1) To explore the factors that have an impact on mobile banking in India (2) To check whether the various factors (as obtained from objective-1) differ by various demographic variables (3) To predict a model for intention to use mobile banking in India by various factors obtained (from objective-1) (4) To determine the impact of identified factors (from objective-1) on consumer behaviour to adopt mobile banking in India.

Literature Review

Since the time Davis (1989) developed the Technology Acceptance Model (TAM), the model has been extended in many directions. This study is elected to elucidate several aspects that are particularly interesting and useful to understand the key influencing factors that impact mobile banking customers in India.

Venkatesh, Morris, Davis, & Davis, (2003) the authors of TAM, introduced the idea of Unified Theory of Acceptance and Use of Technology (UTAUT) which is a unified model that integrates elements across eight models Social Cognitive Theory (SCT), Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB), Innovation Diffusion Theory (IDT), Motivational Model (MM), Technology Acceptance Model (TAM), Model of PC utilization (MPCU), combining TAM & TPB.

Extended Unified Theory of Acceptance and Use of Technology (UTAUT2): Due to the limitations of UTAUT, Venkatesh et al., (2012) further extended the model which includes additional constructs such as price value, habit and hedonic motivation. The empirical test of this model indicates R^2 results showing an improvement from 56% to 74% in Behavioral Intent (BI) and 40% to 52% in technology use (as compared to UTAUT).

From various literature reviews, models on technology adoption & use can be classified as (i) foundational models that describe the theory and aspects of adoption of innovations (ii) models extended by the researchers by adding constructs to adapt to their research study (iii) combining 2 or more models to arrive at a working model and empirically testing its significance.

Adoption of mobile banking: Combining UTAUT2 (Venkatesh et al., 2012) with Hofstede cultural moderators, Baptista & Oliveira (2015) have provided new insights into the dimension of technology acceptance and the influence of culture to adopt mobile banking. To explain the factors affecting mobile banking, Baptista & Oliveira (2015) conducted an empirical test in Mozambique, Africa with a sample size of 252 respondents. Other studies combining UTAUT2 that focus on various factors includes IS Success Model in Saudi Arabia (Baabdullah, Alalwan, Rana, Kizgin, & Patil, 2019), gamification constructs in Brazil (Baptista & Oliveira, 2017) with age and gender used as moderators.

Theoretical Framework & Conceptual Model

Figure 1 provides the details of the conceptual model developed for this research, an extension of the UTAUT2 model (Venkatesh et al., 2012) developed from the context of consumer use.
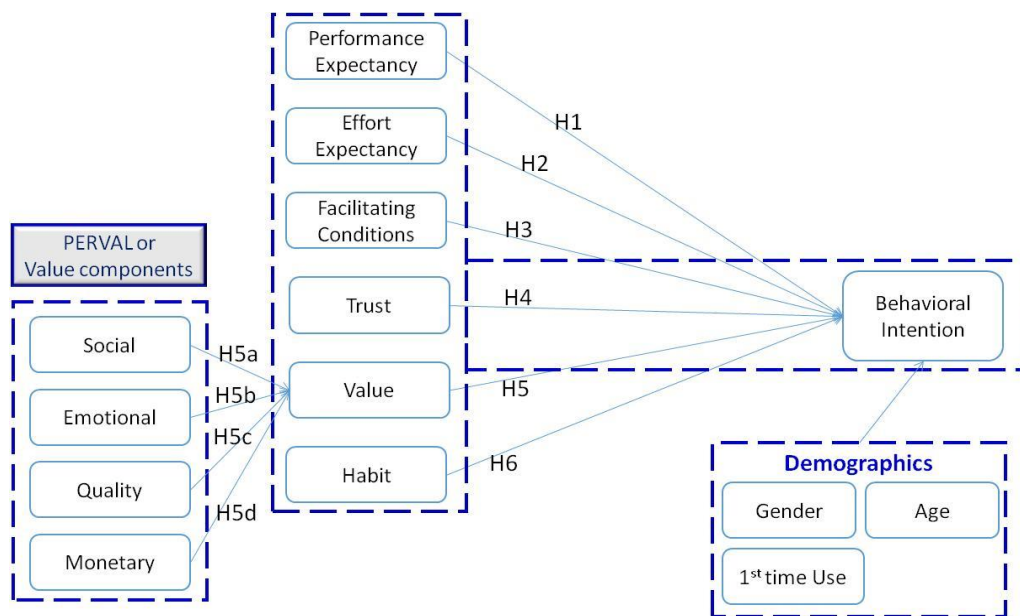
Figure 1 - Proposed Conceptual Model

- Performance Expectancy is "the degree to which using technology will provide benefits to consumers in performing certain activities."

- Effort Expectancy is "the degree of ease associated with consumers' use of technology."

- Facilitating Conditions refer to "consumers' perceptions of the resources and support available to perform a behaviour."

- The habit has been defined as "the extent to which people tend to perform behaviors automatically because of learning"

Trust is considered vital as it is a central aspect of monetary transactions. Chong (2013) has extended TAM by incorporating Trust as an additional endogenous construct to determine factors influencing m-commerce adoption. Baptista & Oliveira (2015) recommended the addition of new endogenous construct trust or risk in UTAUT2 model since the effect of BI to use was found to be not significant, contradicting with earlier studies (Venkatesh et al., 2012).

There are various theories which study different aspects of value components. Sweeney & Soutar (2001) describes the consumer perceived value or PERVAL with four distinct, value dimensions social, quality/performance, emotional and price/value for money by developing

19-item measure. Hence this research will study the effect of perceived value or PERVAL as a multi-dimensional component on behavioural intent to adopt mobile banking.

- Social Value is "the utility derived from the product's ability to enhance social self-concept."
- Emotional value is "the utility derived from the feelings or affective states that a product generates."
- The quality value is "the utility derived from the perceived quality and expected performance of the product."
- Monetary value is "the utility derived from the product due to the reduction of its perceived short term and long term costs."

H1	Performance Expectancy has a positive effect on Indian Customers BI to use mBanking
H2	Effort Expectancy has a positive effect on Indian Customers BI to use mBanking
H3	Facilitating Conditions has a positive effect on Indian Customers BI to use mBanking
H4	Trust has a positive effect on Indian Customers BI to use mBanking
H5	Value has a positive effect on Indian Customers BI to use mBanking
H5a	Social has a positive effect on Value
H5b	Emotional has a positive effect on Value
H5c	Quality has a positive effect on Value
H5d	Monetary has a positive effect on Value
H6	The habit has a positive effect on Indian Customers BI to use mBanking

Research Methodology

The questionnaire was developed with the help of extant research by including four items per construct (as per the conceptual model), making it a total of 40 questions. These questions were measured using a 7-point Likert scale (1=strongly disagree to 7=strongly agree). The questionnaire also included demographic variables like gender, age group, salary, education. The primary data was collected during the period of Dec-2018 from a total of 178 respondents using both online (using Google forms) and offline mode (questionnaire printed on a paper and asking people coming out of the bank to fill the questionnaire). A total of 7 respondents were

excluded from the dataset as they did not meet with the required criteria (unengaged response, missing data / incomplete data). The resultant total sample size is 171 usable responses.

Data adequacy assumes that the sample size should be about five times the number of items to a maximum of 10 times the number of items. The sample size of 171 in this study meets with the recommended stipulation as smaller sample size (n>150) should be sufficient if a dataset has several high factor loading scores (>0.8) (Guadagnoli & Velicer, 1988).

A two-stage methodology was adopted for testing the measurement model and structural model using IBM SPSS and AMOS which provides a better estimation in CBSEM and has advantages to SEM over linear regression (Anderson & Gerbing, 1988).

Data Analysis and Result

The figures provide brief descriptive statistics of Gender, education, age group, education, income and 1st-time usage of mobile banking.
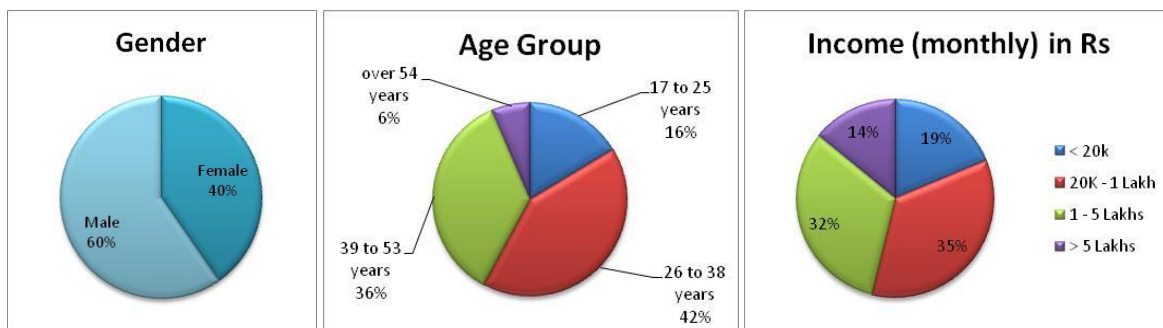
Figure 2 – Gender   **Figure 3 - Age Group**   **Figure 4 - Monthly Income**

The male to female ratio of respondents in the gender variable is 60:40 and the majority of respondents in this study are graduates and above. The age segment reveals that the majority of the respondents are in the age group 26-53. There is an even spread of the respondent's income levels.
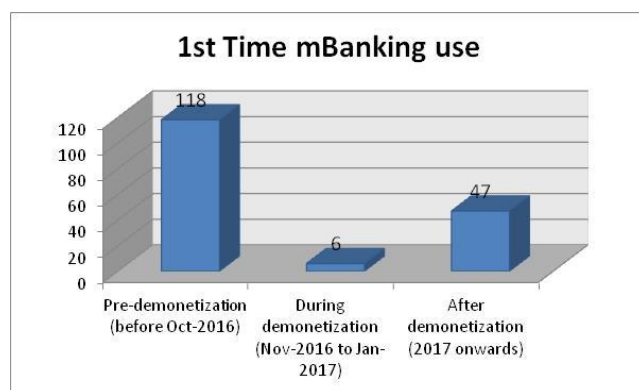
From the data, it is indicative that 1st Time Usage of mobile banking services has been during the Pre-demonetization period (or before Oct-2016), though the frequency of usage would have increased after the demonetization due to incentives and zero transaction fee offered on each transaction.

Figure 5 - First Time mBanking Use

Normality test for univariate for each of the indicators of the latent variable was performed using the *skewness-kurtosis* approach in SPSS, and the results were within the recommended range of values. The skewness values ranged from benign to 2.19 and are below the recommended absolute values of <3 suggested, and the kurtosis values ranged from benign to 6.5 and are within absolute values <8 suggested by Kline (2015).

The reliability analysis ascertains measures of scale reliability, the items that compose the scales and the relationship between individual items.

In the *Inter-Item correlation matrix* table, all values should be positive, and it identifies how each item correlates to all of the other items. *Correlated Item-total correlation* identifies the degree to which item correlates with the total score and the values lower than 0.30 may not be representative of the same content domain (Hair, Black, Babin, & Anderson, 2015). The items identified low with correlated item-total correlation are FC4, and items with negative values are QV4R, and these items indicate questionable internal consistency.

Composite Reliability: Cronbach's alpha was computed to assess whether the data from ten constructs that were summed to create the customer's usage behaviour score formed a reliable scale. From the results it was found that two items FC4 and QV4R had low correlations value 0.294 and -0.053 respectively. The suggested correlation value for each item should be greater than 0.4 (Leech, Barrett, & Morgan, 2015). The Cronbach alpha for the corresponding construct increases with these items deleted (FC4 and QV4R). For rest of the items, the total correlation is found to be moderately high (> 0.7 reliability standard) to high, and it is inferred that these items will make a good component of a summated rating scale with emphasis placed on composite reliability (Bagozzi & Yi, 2012).

Table 1 - Cronbach Alpha

The values in the column labelled "Cronbach's Alpha if Item Deleted" shows that none of the items would increase the reliability if they were deleted. It indicates that all items are positively contributing to the overall reliability.

The Cronbach alpha for all the 40 items in the ten constructs was 0.964. It indicates that the items form a scale that has reasonable internal consistency reliability. Similarly, the Cronbach alpha for the constructs PE, EE, HB, SV, EV, MV, TR and BI (>.80) indicated good internal consistency, but the .619 & 0.753 Cronbach alpha for the QV and FC indicated minimally adequate reliability. After removal of the two items FC4 and QV4R, the Cronbach alpha for QV and FC improved to 0.884 and .890 respectively, positively contributing to the overall reliability.

Measurement model: As the first step, the factor structure is analysed to understand how the variables relate, and how they are measured (Hair Jr, Hult, Ringle, & Sarstedt, 2016) and to group them based on inter-variable correlations using Exploratory Factor Analysis (EFA).

Construct	Cronbach Alpha	
	Initial	Final*
PE	0.899	0.899
EE	0.925	0.925
FC	0.753	0.883
HB	0.838	0.838
SV	0.938	0.938
EV	0.915	0.915
QV	0.619	0.890
MV	0.893	0.893
TR	0.963	0.963
BI	0.908	0.908
* items FC4 & QV4R removed		

KMO Measure of Sampling Adequacy is "a measure to quantify the degree of inter-correlations among the variables and the appropriateness of factor analysis" (Hair et al., 2015). KMO was found to be 0.930 which is well within the acceptable range (Kaiser & Rice, 1974). Bartlett's Test of Sphericity under the null hypothesis (H_0), follows chi-square distribution, and the significance was found to be <.05 which indicates sufficient correlation exists among the variables to proceed further with factor analysis (Hair et al., 2015).

The diagonal elements in the Anti-image correlation matrix for each statement were all found to be >0.6 which demonstrates KMO measure of sampling adequacy is within the acceptable range for each item except for an item QV4R (qualifies for item removal). It validates that distinct and reliable factors can be produced (Yong & Pearce, 2013) and is suitable for EFA /

CFA as the KMO is 0.93 and the individual diagonal element were >0.90. Communality was found to be >0.5 for each item except for FC4, having a value of 0.35 becomes a candidate for removal of the item as it may struggle to load significantly on to any factor.

Factor Analysis was performed by using promax rotation thereby extracting nine factors for the items. Subsequently removed the items (PE4, HB4, EV1, QV4R, MV4, BI1 and FC1 to FC4) from the factors due to high cross-loading amongst factors or due to low factor loading. Refer to Table 2 for the final rotated component matrix. The factor loading obtained is larger than the recommended value (Bagozzi & Yi, 1988).

Discriminant Validity has been examined using the factor correlation matrix to identify the magnitude to which factors are distinct and uncorrelated, and the correlations between factors are found to be not exceeding the suggested value of 0.7 (Kline, 2015). The validity of the measurement model was performed in AMOS and results obtained as per the

Table 3 for Composite Reliability (CR>0.7), convergent validity (AVE>0.5), and discriminant validity (square root of AVE greater than inter-construct correlations, diagonal values given in bold) when doing CFA (Fornell & Larcker, 1981; Hair et al., 2015). After EFA, Confirmatory Factor Analysis (CFA) was performed to confirm the factor structure of the research dataset extracted in EFA. CFA is used to test the measurement model before estimating the full structural model (Anderson & Gerbing, 1988).

Table 2 - Rotated Component Matrix

	Component								
	1	2	3	4	5	6	7	8	9
PE1				.738					
PE2				.932					
PE3				.997					
EE1			.886						
EE2			.876						
EE3			.877						
EE4			.854						
HB1									.576

HB2								.977
HB3								.654
SV1	.750							
SV2	.988							
SV3	.921							
SV4	.888							
EV2							.693	
EV3							.941	
EV4							.805	
QV1						.969		
QV2						.666		
QV3						.929		
MV1					.535			
MV2					.962			
MV3					.814			
TR1		.794						
TR2		.986						
TR3		.921						
TR4		.872						
BI2							.694	
BI3							.929	
BI4							.842	

Common Latent Factor (CLF) method was used to identify the common variance among all observed variables in the research model (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003) in AMOS by adding a latent factor and subsequently connecting it to all observed items in the model. By comparing the standardised regression weights from the model to the standardised regression weights of a model without the CLF, all were found to be greater than 0.7 (MacKenzie & Podsakoff, 2012). This result indicates that the Common Method Bias (CMB) is not found in this study.

Table 3 - Convergent and discriminant validity of constructs

	CR	AVE	EV	SV	TR	EE	PE	MV	QV	BI	HB
EV	0.906	0.762	**0.873**								
SV	0.939	0.793	0.732	**0.891**							
TR	0.964	0.871	0.486	0.417	**0.933**						
EE	0.927	0.761	0.476	0.306	0.628	**0.872**					
PE	0.912	0.775	0.567	0.314	0.507	0.751	**0.880**				
MV	0.886	0.722	0.553	0.437	0.706	0.537	0.525	**0.850**			
QV	0.893	0.735	0.690	0.535	0.709	0.614	0.572	0.653	**0.857**		
BI	0.901	0.752	0.596	0.479	0.743	0.588	0.543	0.735	0.621	**0.867**	
HB	0.817	0.599	0.648	0.705	0.511	0.519	0.654	0.510	0.540	0.678	**0.774**

CR=Composite Reliability, AVE=Average Variance Extracted

The model fit indices were found to be satisfactory as per the acceptable recommended thresholds (Hair et al., 2015; Hu & Bentler, 1999) CMIN/df=1.75, GFI=0.804, CFI=0.944, RMSEA=0.066 and SRMR=0.055 (Refer Table 4).

Table 4 - Model fit indices

Structural model: The variable inflation factors (VIF), a measure of the degree of multicollinearity, was examined on dependent variables and observed that no VIFs were found greater than 6, which is far less than the threshold of 10 (Hair et al., 2015).

Fit Indices	Values Obtained	Acceptable thresholds
CMIN/df	1.75	<=3
GFI	0.804	>.7 for complex model
CFI	0.944	>0.9
RMSEA	0.066	>.06 or >.08
SRMR	0.055	<.08 or <.1

Testing of Hypothesis: Table 5 provides the test result of the hypothesis which indicates that TR-BI (β=0.397, p<.001), HB-BI (β=0.231, p=0.047) & Value-BI (β=0.329, p=0.038) has a significant positive relationship, and those are not found significant in p-value are the other two constructs PE-BI (β=-0.148, p=0.162) and EE-BI (β=0.087, p=0.162). The total variance

explained by the model or R^2 for the final model is found to be 71% (Refer to Figure 6 - Path Model).

Invariance test for grouping variables was calculated for mobile banking usage (High represents every day or once a week usage, and Low represents once in a month / 3m / 6m usage). It can be inferred that it is metrically invariant at a significant level of 95% confidence interval.
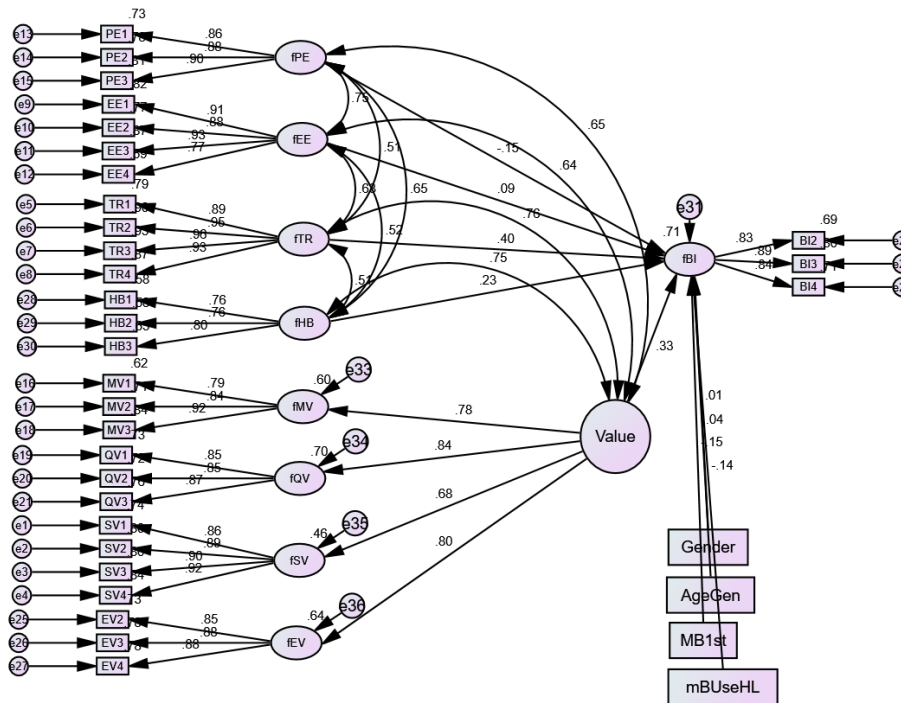
Figure 6 - Path Model

To test the objective-2, the factors obtained do not differ on the basis of Gender (demographic variable). The significance (2-tailed) in independent sample t-test, the p-value is greater than .05 which can be inferred that there is no significant difference between Male and Female in the factors obtained.

Similarly, one-way ANOVA was performed to test all the factors with the age generation category (Gen X, Gen Y and baby boomers). From the Test of homogeneity of variance for the three age generation category, the significance value is >.05 for the seven factors, and ANOVA is used to test the difference. For the remaining two factors (EE_F3 and BI_F7), the significance value was found to be less than .05, and hence Welch is used. From both the tables ANOVA and Welch, it is found that the values for all the factors are greater than .05 and hence

it can be inferred that there is no difference found between the age generations categories for the various factors.

Table 5 - Hypothesis testing result of the model

Hypothesis	IV	DV	Beta	p	Result
H1	PE	BI	-0.148	0.162	Rejected
H2	EE	BI	0.087	0.377	Rejected
H3	TR	BI	0.397	***	Supported
H4	HB	BI	0.231	0.047	Supported
H5	VALUE	BI	0.329	0.038	Supported

IV=independent variable, DV=dependent variable, *** $p<.001$

Conclusion & Recommendations

Theoretical contribution: Though Venkatesh et al. (2012) empirically tested UTAUT2, several authors (Burton-Jones & Straub Jr., 2006; Venkatesh et al., 2012) have emphasized that the future researches to include more structural elements related to users. (1) This study contributes to the existing body of knowledge in mobile banking specifically in the Indian consumer's context with UTAUT2 and in comparison with pre & post demonetization. (2) This research is a step forward with the adaptation of value components and the multidimensional construct towards the empirical analysis for mBanking.

Practical contribution: This study can be useful to banking and financial organisations to formulate strategies not only to attract customers but also to continue to engage and retain them on continuous usage of mobile banking apps regarding everyday transactions for a wide variety of utility services.

More and more banks and private companies & third party organisations are entering into this competitive market as MFS have undergone multi-faceted changes, which will help the companies to augment their revenue sources.

With the advent of keeping abreast with the innovations in mobile technology, banks can effectively meet with the ever-growing needs of their customers, while at the same time streamlining a number of processes to meet the fast-paced demands of the 21st century.

References

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological Bulletin*, *103*(3), 411–423.

Baabdullah, A. M., Alalwan, A. A., Rana, N. P., Kizgin, H., & Patil, P. (2019). Consumer use of mobile banking (M-Banking) in Saudi Arabia: Towards an integrated model. *International Journal of Information Management*, *44*(August 2018), 38–52.

Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, *16*(1), 74–94. https://doi.org/10.1007/BF02723327

Bagozzi, R. P., & Yi, Y. (2012). Specification, evaluation, and interpretation of structural equation models. *Journal of the Academy of Marketing Science*, *40*(1), 8–34.

Baptista, G., & Oliveira, T. (2015). Understanding mobile banking: The unified theory of acceptance and use of technology combined with cultural moderators. *Computers in Human Behavior*, *50*, 418–430.

Baptista, G., & Oliveira, T. (2017). Why so serious? Gamification impact in the acceptance of mobile banking services. *Internet Research*, *27*(1), 118–139.

Barnes, S. J., & Corbitt, B. (2003). Mobile banking: concept and potential. *International Journal of Mobile Communications*, *1*(3), 273. https://doi.org/10.1504/IJMC.2003.003494

Berraies, S., Ben Yahia, K., & Hannachi, M. (2017). Identifying the effects of perceived values of mobile banking applications on customers: Comparative study between baby boomers, generation X and generation Y. *International Journal of Bank Marketing*, *35*(6), 1018–1038. https://doi.org/10.1108/IJBM-09-2016-0137

Burton-Jones, A., & Straub Jr., D. W. (2006). Reconceptualizing System Usage: An Approach and Empirical Test, Information Systems Research. *Information Systems Research*, *17*(3), 228–246. https://doi.org/10.1287/isre.l060.0096

Chong, A. Y. L. (2013). Predicting m-commerce adoption determinants: A neural network approach. *Expert Systems with Applications*, *40*(2), 523–530.

Davis, F. (1989). Perceived Usefulness, Perceived Ease Of Use, And User Accep. *MIS*

Quarterly, *13*(3), 319.

Fornell, C., & Larcker, D. F. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research*, *18*(1), 39.

Guadagnoli, E., & Velicer, W. F. (1988). Relation of Sample Size to the Stability of Component Patterns. *Psychological Bulletin*, *103*(2), 265–275.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2015). *Multivariate data analysis* (7th, India ed.). Upper Saddle River, NJ: Pearson Prentice Hall.

Hair Jr, J. F., Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). *A primer on partial least squares structural equation modeling (PLS-SEM)*. Sage Publications.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, *6*(1), 1–55.

Kaiser, H. F., & Rice, J. (1974). Little jiffy, mark IV. *Educational and Psychological Measurement*, *34*(1), 111–117.

Kline, R. B. (2015). *Principles and practice of structural equation modeling*. Guilford publications.

Leech, N. L., Barrett, K. C., & Morgan, G. A. (2015). *IBM SPSS for intermediate statistics: Use and interpretation*. *5th ed.* New York, US: Taylor & Francis Group.

MacKenzie, S. B., & Podsakoff, P. M. (2012). Common method bias in marketing: Causes, mechanisms, and procedural remedies. *Journal of Retailing*, *88*(4), 542–555.

Mobile Internet Report. (2017). Retrieved from https://cms.iamai.in/Content/ResearchPapers/dc232cb2-22d2-46da-919e-e7a536887291.pdf

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. *Journal of Applied Psychology*, *88*(5), 879–903.

Sweeney, J. C., & Soutar, G. N. (2001). Consumer perceived value: The development of a multiple item scale. *Journal of Retailing*, *77*(2), 203–220.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User Acceptance of Information Technology: Toward A Unified, *27*(3), 425–478.

Venkatesh, V., Thong, J., & Xu, X. (2012). Consumer acceptance and user of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly*, *36*(1), 157–178.

Yong, A. G., & Pearce, S. (2013). A beginner's guide to factor analysis: Focusing on exploratory factor analysis. *Tutorials in Quantitative Methods for Psychology*, *9*(2), 79–94.

Evaluate the strength of PSU Banks' Balance Sheet using Stress Testing

Ms Sonia Paradkar
Research Scholar
Prin. L. N. Welingkar Institute of
Management Development and Research

Prof. Dr. Suyash Bhatt
Head Innovation & Entrepreneurship
Professor Finance
Prin. L. N. Welingkar Institute of
Management Development and Research

A. Abstract

The Economic turmoil, increasing exposure of markets to specific industries, their interdependence have increased the vulnerability of credit lending institutions towards difficult to predictable phenomena. These in the short run and long run do create financial crises both in domestic and global financial markets creating financial instability. Stress testing is one of the effective and popular ways to alert bank management with regard to adverse unexpected outcomes related to variety of risks and provides an indication to how much capital might be needed to absorb losses should the large shocks occur. In this research paper we plan to undertake stress testing of public sector undertaking banks with sensitivity analysis. Internationally, stress testing has become an integral part of banks' risk management systems. RBI has recommended guidelines for Stress testing in tune with Basel Committee on Banking Supervision's (BCBS) Principles for Sound Stress Testing Practices and Supervision. All Scheduled Commercial Banks (SCBs) have to adhere to the guidelines at a minimum. We plan to use this technique to assess banks' financial strength as per RBI Guidelines.

B. Keywords: Banks, Financial Risk, Central Banks and Their Policies
JEL Code: G21, G32, E58

C. Introduction

After 2009, the asset quality gap between PSBs and other banks started rising, with PSBs sharing a larger burden of NPAs. The problem of ALM, increase in exposure to specific industries, failure of these industries to payback the advances led to shrink in credit lending capacity of banks. The extent to which banks were able to reduce NPAs through recovery efforts were not as what had expected by RBI. It started causing liquidity crunch in the market affecting the overall economy. With the problem of deteriorating asset quality and increasing risk weighted assets, RBI stipulated specific Capital Requirement norms over and above the mandate of Basel III guidelines.

The financial crisis such as IL&FS, Nirav Modi case etc. have developed need of quantitative techniques to assess the potential risks to the individual institutions as well as financial system. A range of quantitative techniques that could serve the purpose is widely known as "Stress testing". Stress testing is commonly described as the evaluation of a bank's financial position under a severe but plausible scenarios. At institutional level, stress testing techniques provide a way to quantify the impact of changes in a number of risk factors on the assets and liabilities portfolio of the institution. RBI has recommended guidelines for Stress testing in tune with Basel Committee on Banking Supervision's (BCBS) Principles for Sound Stress Testing Practices and Supervision. All Scheduled Commercial Banks (SCBs) have to adhere to the guidelines at a minimum.

Rationale of the study:

- The stress testing framework performs dual role of being a diagnostic tool for improving a bank's understanding of its risk profile and also for introducing a forward looking element in the capital assessment process
- It helps to meet the stressed situations such that they do not become a serious threat to themselves or to the banking systems in which they operate
- It helps improve capital and liquidity planning, and facilitating business decision-making

D. Theoretical Framework

D. 1 Concept of Stress Testing

Stress testing is a series of analytical techniques, which measure the sensitivity of the financial institutions on risk factors. The Basel Committee on Banking Supervisions defines a stress test as "the evaluation of a bank's financial position under a severe but plausible scenario to assist in decision-making within the bank". The term "stress testing" is also used to refer not only to the mechanics of applying specific individual tests, but also to the wider environment within which the tests are developed, evaluated and used within the decision-making process.

There are broadly two categories of stress tests used in banks viz. sensitivity tests and scenario tests.

Sensitivity tests are used to assess the impact of change in a variable on the bank's financial position.

Scenario tests include simultaneous moves in a number of variables based on a single event experienced in the past or a plausible market event that has not yet happened and the assessment of their impact on the bank's financial position.

In this research paper we have performed sensitivity tests on 17 Public Sector banks for one year period from 31.12.2018 to 31.12.2019. The study find the number of banks capable of withstanding credit and liquidity shocks. The study has also points out some additional capital that the banks to collect to absorb the shocks.

Here we have performed Credit risk, Credit concentration risk and Liquidity risks under different possible scenarios. The impact on current Capital Adequacy Ratio (CRAR) is assessed under different scenarios under consideration and red flags have been drawn for banks that are under threat or show possibility to fall under threat.

E. Literature Review

The committee on the Global Financial System (CGFS) initiated a census of stress test scenarios of 43 banks (commercial and investment banks) of 10 courtiers constituting 293 stress test (stress test of potential market event, such as a stock market crash) and 131 sensitivity Stress test (stress test based on standardized moves in closely linked market risk factors, such as parallel yield curve shift) in early 2000. The census also reported that all the banks under study used stress test to understand the firm's risk profile and communicate with senior management. The report also pointed out that most banks run their stress test at high frequency (daily or weekly).

In France, during the 1st quarter of 2004, the General Secretariat of the Commission Bancaire (GSCB) and the Directorate General Economics and International Relations (DGEI) of the Banque deFrance conducted an assessment of the stability of the French banking system and its capacity to withstand a set of financial shocks through stress testing. The result of the assessment, on the basis of 2003 reports and predicted performance in 2004 and 2005, indicated that the French banking system is currently is in a position to withstand major economic shocks.

In the United States, stress tests were conducted on America's 19 largest bank holding companies (BHCs). These results revealed that nine (9) of the nineteen (19) banks tested already hold sufficient capital to operate through 2010 under the projected adverse scenario; those banks will not require to raise additional capital. Ten (10) of the nineteen banks were found to need additional capital totalling $75 billion in order to weather a more adverse economic scenario.

In Switzerland, the Financial Market Supervisory Authority, FINMA, had been conducting the various stress tests on Swiss banks since 2008, designed to assess the impact that a sharp deterioration in economic conditions might have on Swiss banks. Since the beginning of 2009, FINMA has stepped up these stress tests at the two large banks, Credit Suisse and UBS, which identified that even after the effect of a severe stress event the banks, would still maintain a stable capital base with a Tier 1 capital ratio over 8%

In Bangladesh, Stress tests were conducted by the staff team of the IMF and the World Bank in 2009 to assess the resilience of the banking sector covering the entire 48 banks operating in the country as of December 2008.The analysis depicts that credit risk continues to have a larger impact than any other single factor. The banking sector CAR declined by 1.4 % ad would require TK29 billion to meet the regulatory minimum of 10%.Five bank including two state owned are currently below the CAR. All nine foreign banks operating in Bangladesh were resilient. Exchange rate risk does not present a major risk in Bangladesh because the net open position of many banks is minimal.

In India RBI published Financial Stability Report biannually that elaborates financial health and potential threat that can cause to all Scheduled Commercial Banks (SCBs). Other organisations Indian Ratings & Research, Accenture publish special report on Indian Banks evaluating their Balance Sheet strength under different stressful

F. Research Method

The study has applied sensitivity analysis of stress testing as per the guidelines of RBI in order to predict the plausible vulnerabilities regarding credit shocks, liquidity shocks and equity price shocks of seventeen (17) Public Sector Banks.

F.1 Explanations of the Methodologies Used

The Stress test of the sample banks would be operated under three hypothetical scenarios:

i. Scenario 1 (Minor Level Shock): It is a situation which means that all risk elements of the sample banks will plausibly encounter small level of shocks at varied level for each risk factor

ii. Scenario 2 (Moderate Level Shocks): It is a situation which means that all risk elements of the sample banks will plausibly encounter medium level of shocks at varied level for each risk factor

iii. Scenario 3(Major Level Shocks): It is a situation which means that all the risk elements of the banks will plausibly encounter medium level of shocks at varied level for each risk factor

F.2 Risks that are covered under this stress Test

i. **Credit Risk:** The stress test for credit risk assesses the impact of increase in the level of nonperforming assets of the bank. It involves two types of shocks

   a. **Increase in NPA:** The three scenarios shall explain the impact of 0.5%, 1% and 1.5% of the total performing assets directly downgraded to bad/loss category having 100% provisioning requirement. The impact of resultant loss will be calibrated on CRAR

   b. **Credit concentration risk:** The three scenarios shall explain the impact of 3%, 5% and 7% performing assets of top 5 large industries directly downgraded to bad/los category having 100% provisioning requirement. The impact of resultant loss will be calibrated in the CRAR

ii. **Liquidity Risk:** This test assess the impact of increase in 10%, 20% and 30% direct net cash flows downgrading Liquidity Coverage Ratio having by 100% absorption in total High Quality Liquid Assets.

iii. **Equity Price Risk:** The stress test for equity price risk assesses the impact of the fall in the stock market index. Appropriate shocks will have to be absorbed to the respective securities if the current market value falls at the rate of 10%, 20% and 30% respectively. The impact of resultant loss will be calibrated in the CRAR.

G. Data Analysis and Result

G.1 Credit Shock: Increase in NPAs

Sr. No	Names Of the Banks	Without Stress CRAR (Regulatory Requirement as per Basel Norms III = 8%, as per RBI mandate = 9%, RBI emphasises 12% CRAR for PSBs)	With Stress: Revised Capital Adequacy Ratio (CRAR) in %			Need of Additional Capital Requirement	
			Scenario 1 (Fall in potential threat if revised CAR <9%) 0.50%	Scenario 2 (Fall in potential threat if revised CAR <9%) 1.00%	Scenario 3 (Fall in potential threat if revised CAR <9%) 1.50%		
1	State Bank of India (SBI)	12.88%	12.44%	12.00%	11.55%	No	
2	IDBI Bank Limited (IDBI)	12.66%	12.36%	12.06%	11.75%	No	
3	Punjab National Bank (PNB)	10.52%	10.07%	9.62%	9.17%	No	
4	Bank of Baroda (BOB)	12.62%	11.26%	10.78%	10.30%	No	
5	Canara Bank (CB)	12.21%	11.76%	11.30%	10.84%	No	
6	Bank of India (BOI)	12.48%	12.02%	11.55%	11.08%	No	
7	Union Bank of India (UBI)	11.43%	11.00%	10.56%	10.11%	No	
8	Indian Overseas Bank (IOB)	8.86%	8.37%	7.88%	7.39%	Yes	1.61%
9	UCO Bank	9.33%	8.95%	8.58%	8.19%	Yes	0.81%
10	Corporation Bank (Corp BK)	11.12%	10.71%	10.31%	9.89%	No	
11	Allahabad Bank (AB)	10.59%	10.13%	9.66%	9.19%	No	
12	Vijaya Bank (VB)	13.39%	12.85%	12.32%	11.77%	No	
13	Syndicate Bank (SB)	12.46%	12.37%	12.28%	12.18%	No	
14	Andhra Bank (Andhra)	11.67%	11.21%	10.75%	10.28%	No	
15	Bank of Maharashtra (BOM)	11.05%	10.60%	10.14%	9.68%	No	
16	Dena Bank (DB)	10.21%	9.83%	9.46%	9.07%	No	
17	Jammu and Kashmir Bank Limited (J&K)	11.63%	11.23%	10.83%	10.43%	No	

Safe Zone	
Chance to fall in threat	
Under threat	

Of the seventeen sample banks tested for the credit shock (increase in NPAs) all banks expect two are seemed to be well protected if the hypothetical scenarios of potential stress come true and would need no additional capital. Out of these banks fourteen banks show chances to be trapped in the threat if situation further worsens.

On the contrary IOB and UCO show stressful situations under all the scenarios and need additional capital of up to 1.61% and 0.81% respectively to absorb the potential loss that can happen.

G.2 Credit Shock: Credit Concentration

Sr. No	Names Of the Banks	Without Stress CRAR (Regulatory Requirement as per Basel Norms III = 8%, as per RBI mandate = 9%, RBI)	With Stress: Revised Capital Adequacy Ratio (CRAR) in %				Need of Additional Capital Requirement	
			Scenario 1 (3%)	Fall in potential threat if revised CRAR <9%	Scenario 2 (5.00%)	Fall in potential threat if revised CRAR <9%		
1	State Bank of India (SBI)	12.88%	11.90%		11.24%		No	
2	IDBI Bank Limited (IDBI)	12.66%	10.65%		9.25%		No	
3	Punjab National Bank (PNB)	10.52%	9.89%		9.46%		No	
4	Bank of Baroda (BOB)	12.62%	11.52%		10.77%		No	
5	Bank of India (BOI)	12.48%	11.72%		11.21%		No	
6	Union Bank of India (UBI)	11.43%	9.78%		8.64%		Yes	0.36%
7	UCO Bank	9.33%	8.15%		7.35%		Yes	1.65%
8	Corporation Bankk (Corp BK)	11.12%	10.27%		9.69%		No	
9	Allahabad Bank (AB)	10.59%	9.08%		8.04%		Yes	0.96%
10	Syndicate Bank (SB)	12.46%	11.08%		10.13%		No	
11	Andhra Bank (Andhra)	11.67%	9.99%		8.83%		Yes	0.17%
12	Bank of Mah (BOM)	11.05%	10.32%		9.84%		No	
13	Dena Bank (DB)	10.21%	9.37%		8.81%		Yes	0.19%
14	Jummu and Kashmir Bank Limited (J&K)	11.63%	11.06%		10.67%		No	

Safe Zone	
Chance to fall in threat	
Under threat	

Of the fourteen sample banks tested for the credit concentration shock nine banks namely SBI, IDBI, PNB, BOB, BOI, Corp Bank, SB, BOM and J&K bank are protected under the two possible scenarios. However to not all these banks though satisfy minimum regulatory requirement but do fall under the emphasized CRAR of 12% by RBI and hence are categorized as "Chance to fall under threat".

On the contrary UBI, UCO bank, AB, Andhra and DB will need additional capital infusion of 0.36%, 1.65%, 0.96%, 0.17% and 0.19% respectively if the NPAs of top 5 industries which they have exposure to increase under scenarios considered.

G3 Liquidity Shock

Sr. No	Names Of the Banks	Without Stress LCR (Regulatory Requirement as per Basel Norms III = 100%)	With Stress: Revised Liquidity Ratio (LCR) in %			Need of Additional HQLA
			Scenario 1 10.00% (Fall in potential LCR if the revised LCR <100%)	Scenario 2 20.00% (Fall in potential LCR if the revised LCR <100%)	Scenario 3 30.00% (Fall in potential LCR if the revised LCR <100%)	
1	State Bank of India (SBI)	141%	128%	117%	108%	No
2	IDBI Bank Limited (IDBI)	107%	98%	90%	83%	Yes
3	Punjab National Bank (PNB)	138%	126%	115%	106%	No
4	Indian Overseas Bank (IOB)	383%	348%	319%	294%	No
5	Corporation Bank (Corp BK)	152%	138%	126%	117%	No
6	Allahabad Bank (AB)	226%	206%	189%	174%	No
7	Vijaya Bank (VB)	123%	112%	102%	94%	Yes
8	Syndicate Bank (SB)	132%	120%	110%	101%	No
9	Andhra Bank (Andhra)	99%	90%	82%	76%	Yes
10	Jammu and Kashmir Bank Limited	357%	325%	297%	275%	No

Safe Zone	
Under threat	

Under the Liquidity risk impact on Liquidity coverage ratio is studied if percentage of net cash outflows increase under three scenarios.

Of the ten sample banks studied all the banks except IDBI, VB and Andhra have enough High Quality Liquid Assets (HQLA) to support their net cash outflows under the three plausible risks and hence they are protected.

However three banks IDBI, VB and Andhra will be under threat if the hypothetical scenarios of potential stress come true and would need additional HQLA to cover the net cash outflows.

G4 Equity Risk

Sr. No	Names Of the Banks	Without Stress CRAR (Regulatory Requirement as per Basel Norms III = 8%, as per RBI mandate = 9%, RBI emphasises 12% CRAR for PSBs)	With Stress: Revised Capital Adequacy Ratio (CRAR) in % Scenario 1 (10.00%)	Scenario 2 (20.00%)	Scenario 3 (30.00%)	Need of Additional Capital Requirement	
1	State Bank of India (SBI)	12.88%	12.01%	11.13%	10.23%	No	
2	IDBI Bank Limited (IDBI)	12.66%	11.18%	9.66%	8.08%	Yes	0.92%
3	Punjab National Bank (PNB)	10.52%	10.02%	9.52%	9.01%	No	
4	Bank of Baroda (BOB)	12.62%	12.07%	11.51%	10.94%	No	
5	Canara Bank (CB)	12.21%	11.86%	11.51%	11.15%	No	
6	Bank of India (BOI)	12.48%	12.08%	11.67%	11.26%	No	
7	Union Bank of India (UBI)	11.43%	11.19%	10.94%	10.70%	No	
8	Indian Overseas Bank (IOB)	8.86%	8.35%	7.83%	7.30%	Yes	1.70%
9	UCO Bank	9.33%	8.78%	8.23%	7.67%	Yes	1.33%
10	Corporation Bank (Corp BK)	11.12%	10.69%	10.26%	9.83%	No	
11	Allahabad Bank (AB)	10.59%	10.24%	9.88%	9.52%	No	
12	Vijaya Bank (VB)	13.39%	12.97%	12.55%	12.12%	No	
13	Syndicate Bank (SB)	12.46%	12.21%	11.97%	11.72%	No	
14	Andhra Bank (Andhra)	11.67%	11.43%	11.18%	10.93%	No	
15	Bank of Maharashtra (BOM)	11.05%	10.69%	10.34%	9.98%	No	
16	Dena Bank (DB)	10.21%	9.80%	9.38%	8.96%	Yes	0.04%
17	Jammu and Kashmir Bank Limited (J&K)	11.63%	11.43%	11.23%	11.02%	No	

Each scenario includes a "Fall in potential threat if revised CAR <9%" colour indicator.

Legend	
Green	Safe Zone
Yellow	Chance to fall in threat
Red	Under threat

Of the seventeen sample banks tested for Equity shock all banks expect four are seemed to be well protected if the hypothetical scenarios of potential stress come true and would need no

additional capital. Out of these banks twelve banks show chances to be trapped in the threat if situation further worsens.

On the contrary IDBI, IOB, UCO Bank and DB show stressed under the scenarios considered and need additional capital of up to 0.92%, 1.7%, 1.33% and 0.04% respectively to absorb the potential loss that can happen.

H. Conclusion

Having summarized the main results of the study, we would like to suggest some derivations of the study that might help the senior managements, owners, policy makers, customers and all other stakeholders of the banks. The derivations are:

First, it can be said that devising stress test the banks' risk managers can identify and recognize the character of firm's exposure as well as the relative strengths and weaknesses of stress test analysis to better simulate the risks at different hypothetical economic crises.

Second, by interpreting the results, the banks can assess their relative capital strength in terms of other banks in the banking sector.

Third, the banks would be in a position to establish a capital buffer (shock absorbers on capital) to defend their risk appetite under stress conditions.

In past few quarters the asset quality of banks had been improving. The distribution of banks' GNPA ratio shows that the number of banks having GNPA ratio less than 10% has gone down. The government is trying improve the PSBs' liquidity problem and had announced last year the Rs. 2.11-lakh crore capital infusion programme. The government earlier this year pumped Rs 11,336 crore in five PSBs -- PNB, Allahabad Bank, Indian Overseas Bank, Andhra Bank and Corporation Bank -- to improve their financial health. Few banks like IOB are opting routes of ESPS to improve Capital positioning. But these all are external aids and can help banks cure their problem temporarily. Effective asset quality monitoring and control are the most appropriate ways to improve banks' financial health in the long run.

I. References:

1. Guidelines on Stress Testing by RBI RBI/2013-14/390 DBOD.BP.BC.No. 75 /21.04.103/2013-14

2. Official Websites of sample Public Sector Banks

3. BSEIndia.com

4. Financial Stability Report by RBI

5. Stress Test on Indian Banks by India Ratings and Research

Firm Innovation Capability and New Product Launch Success

Anoop Virmani
Student,
Management Development Institute (MDI),
Gurgaon

Ankit Chhabra
Student
Management Development Institute (MDI)
Gurgaon

Siddharth Mathur
Student,
Management Development Institute (MDI), Gurgaon

Under the guidance of Prof. (Dr.) Narain Gupta and Prof. (Dr.) Amit Kumar Gupta

Management Development Institute (MDI), Gurgaon

Abstract

Innovation could be acknowledged as a key success factor in a progressively competitive global economy. Economic development is fostered by innovation practices and it further contributes to the expansion of new markets and in the advancement of existing operational markets. This paper explores the drivers of innovative capabilities of the firms in an emerging market like India and tries to establish a constructive relationship with new product launch success. This study considers both qualitative as well as quantitative viewpoints, with causal as the research procedure. A survey aimed at working executives residing in Indian metro cities was conducted with a convenience sampling method of data collection. A useful relationship was established between the firm's innovation capabilities and new product launch success. In addition to the key analysis, in the post-hoc analysis, positive correlations were observed between the variable of product launch success and other fragmented variables for product innovation on individual basis.

Keywords

Innovative capability; NPD; product success; product launch

Introduction

Innovation is increasingly getting difficult to attain. Due to globalization, competition among firms is getting fiercer and new technologies are becoming easier to replicate. Innovation is considered to have a great significance to have a competitive edge in such complicated environments. It is gradually becoming a necessity for long-term prosperity,

growth and sustainable potential, together with the survival of a company or an industry. The need of increase in productivity of the labor force with the help of innovation has been well explained by neo-classical economics with the emphasis on total factor productivity. As per the neo classical economics, the growth of a nation's output (GDP), is a function of growth rates of labor force, capital and factor productivity which some economists compare with technological progress. This is one reason why companies recognize that innovation is a strategic need and not a strategic choice.

But there are very few indicators that indicate innovation capability having any relation with the new product's launch success. A positive impact is brought by product innovation, while new product performance has seen a negative impact with the introduction of new customers. To develop the theory the context selected is independent of any industry and is based on the parameters of Innovation capability and New Product Launch Success. This paper examines how the innovation capabilities, firm's focus on research and development of new products impacts the actual launch of products in the market. On searching, we found that an inadequate number of researches related to innovative capability and new product launch success has been carried out in emerging markets such as India. The purpose of this study is, therefore, to fill this gap by understanding the factors that influence innovative capabilities, new product launch success.

Theoretical Framework

Product Innovation Capability

In today's rapidly evolving consumer needs and the ever-changing market environment, an organization with product innovation capability enables them to maintain arrange with the rapidly evolving consumer needs. Product innovation Capability positively impacts new product innovation performance (Hoonsopon and Ruenrom, 2012). The Capacity of an organization plays an important role in the successful development of new product. In this paper, it is hypothesized that product innovation capability will be a factor in new product's demand and supply.

New Product Launch Handling

In today's market, the key factors around which the market revolves are an insight on

the price sensitivities, market potential, customers' needs, competition, and buyer behavior, has a strong and well-targeted sales force and distribution effort (Cooper, R. G. et al, 1979). These factors play a crucial role in the outcome of the new product launch success. It is hypothesized, that firms having better marketing understanding will have stronger and well-directed sales efforts.

New Product Launch Success

Unique and superior products are characteristically highly innovative, customer prefers a product which has long lasting life and at the same time be cost effective or let them do something which was thought to be impossible earlier. The customer also like products which are of sophisticated quality (firmer designs, stronger, long-lasting, higher reliability, etc.). Hence to reiterate and confirm the decades-old findings, a hypothesis was taken that unique features allow a product to have a competitive edge over other firms and a company with high innovation capability will be able to attract more customers in future.

The diagram 1, below, explains the direct relationship that we tried to establish.

Diagram 1: Establishing the Relationship
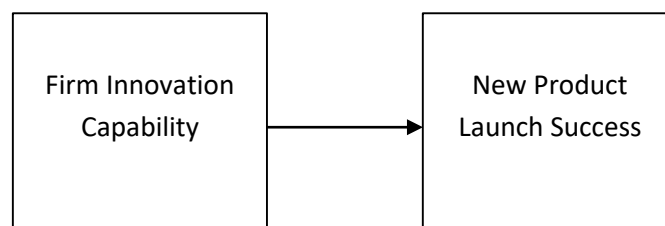
Hypothesis: firm innovation capability positively affects new product launch success.

Literature Review

Scientists have examined how different types of inter-organizational relationships allow companies to gain access to the knowledge base and resources of other organizations (Jarillo 1987; Varadarajan and Cunningham 1995) and have argued that such access can lead to new links. (Kogut and Zander 1992), stimulate broader perspectives and synthesis (Dewar and Dutton 1986), and spread out the risks and costs associated with innovation (Sivadas and Dwyer 2000). This results in benefits for the innovative capacity of a company, which can be seen as results such as a higher number of patents or new products (Ahuja 2000; Wuyts, Dutta and Stremersch 2004), the perceived success of the development of new products (Sivadas and

Dwyer 2000), creativity (Im and Workman 2004), the speed of development of new products (Rindfleisch and Moorman 2001), and profitability. (Wuyts, Dutta, and Stremersch 2004). Both radical and incremental product innovation, improve the performance of the company and increase their competitive advantages by distinguished new products. Organization capabilities also play a crucial role in the successful development of new products (Brentani and Kleinschmidt, 2004). By giving an opportunity for further research to understand the impact of innovation capabilities on the success of product launch.

Previous literature gave us some insights on best practices used in new product development (NPD) (Adams-Bigelow2006; Griffin 1997; Page 1993), relationship between market orientation and NPD (Atuahene-Gima 1996; Baker and Sinkula 2007; Narver and Slater 1990), and R&D-marketing interface (Gupta, Raj, and Wilemon 1986; Olson, Walker, and Ruekert 1995; Song and Thieme 2006; Van den Bulte and Moenart et al, 1998). It has been argued that for NPD, managers should pay attention to internal process and external environmental characteristics if forming any alliance especially in a developing market like China where rules and regulations framework is not very strong to protect intellectual property rights.

Benefits for the innovative capacity of a company, which can be seen as results such as a greater number of new products and patents (Ahuja 2000; Wuyts, Dutta and Stremersch 2004), the perceived success of the development of new products (Sivadas and Dwyer 2000), creativity (Im and Workman 2004), the speed of development of new products (Rindfleisch and Moorman 2001), and profitability. (Wuyts, Dutta, and Stremersch 2004). The ability to develop new products is especially important for the survival and growth of technology-based industries, in which competitive technologies abound and customer needs can rapidly develop and change. (Shan, Walker, and Kogut 1994; Sivadas and Dwyer 2000).

Some authors suggest that effective competition is based less on strategic progress than on incremental innovation that takes advantage of carefully developed skills (Hayes, 1985; Quinn, 1980). Knowledge and skills embodied in people are most often associated with core skills (Teece et al., 1990) and are most obviously relevant for the development of new products. Innovation plays a vital force in the global economy, especially in the manufacturing sector (Xin et al., 2010)

The structure of the measuring variables in the proposed model is assessed and adapted with the environment i.e. some measurement items are used and borrowed from previous works of literature (such as Hoonsopon and Ruenrom, et al, 2012) while some constructs are newly created. To measure the constructs, this study uses a Likert-type scale where consumers rated their agreements or disagreements from 1 to 7 with 1 as strongly agreed and 7 strongly disagree.

All measurement variable was measured using a seven-point rating scale. Reliability and validity of measurement and structural models were tested to improve the reliability and validity of the results following Anderson and Gerbing (1988). We have established a positive relationship between Innovation Ability of an organization and the success of a New Product Launch in an emerging market such as India.

Research Method

The aim of this study was to investigate the impact of a firm's innovation capability on new product launch success. This study used a developed questionnaire as an instrument with all the scales suggested by Hoonsopon and Ruenrom et al., 2012 while some constructs are newly created. We have used convenience sampling for data collection.

Sample and data collection

During this study, we collected data from 200 working executives from various industries such as Banking, Pharmaceutical, Automobile, MNCs etc. Out of 200, 20 were discarded on the basis of, the standard deviation of the respondent being less than .45, 14 casual respondents were discarded on the grounds of negative connotation question and 6 were removed for sending the incomplete form. (the data has been presented in table 1). As per the functional expertise, 28% of the respondents were from marketing and sales while 19% of people were found to be from the R&D division. Hence about 47% of the respondents were found to be directly involved with the product innovation and launch success. Furthermore, as the country has chosen is India, hence after manufacturing, IT was found to be the most common industry among the respondents.

Table 1: Demographic profile of the respondents (N = 160)

Segment	Sub-Segment	Percentage
Education	Masters	52%
	Bachelors	46%
	Others	3%
Age Group	<25 Years	18%
	26 to 30 Years	38%
	31 to 35 Years	30%
	36 to 40 Years	8%
	>40 years	6%
Function	Finance	13%
	IT	6%
	Procurement	6%
	Production	9%
	Marketing & Sales	28%
	R&D/ NPD	19%
	Others	19%
	Banking, Finance & Insurance	18%
	Manufacturing	33%
Firm's Business	Construction	5%
	IT & ITes/ Software Services	23%
	Telecom & ISP	2%
	Retail	6%
	Others	9%

Data Analysis and Result

The analysis was performed in 3 major steps, first, the reliability of the scales was performed for both the constructs (independent and dependent) which provided Cronbach alpha value of .919 and .9 respectively. The findings showed that all constructs in two models had a Cronbach's alpha value higher than 0.7, meaning they met the levels suggested by Cronbach (1951). Second, confirmatory factor analysis was performed separately for independent and dependent variables using varimax rotation method with eigenvalue>1, 2500 iterations and coefficients below .4 were suppressed (elaborated data in table 2). Third, we performed a post hoc analysis by drilling down into the correlations of variables between the constructs. Age, education and functional expertise were included in the structural model to control for their effects. Comparing the standardized estimates with and without controls (Becker et al., 2015),

shows no significant effect of all these control variables, hence these are not discussed any more in this paper.

Table 2: Confirmatory factor analysis of tested constructs.

λ = standardized factor loading, M = mean, SD = standard deviation
Note: Items in italics were removed due to the question being of negative connotation

		λ	M	SD
Firm Innovation Capability (Chronbach α = .92)				
IV01	My firm has compatible engineering skills for any new project	0.74	2.32	1.57
IV02	My firm has compatible production resources for a new project	0.74	2.20	1.35
IV03	My firm has adequate financial resources for any New Product Development	0.84	2.02	1.37
IV04	My firm has adequate advertising skill	0.65	2.35	1.48
IV05	My firm undertakes pilot production well	0.89	2.38	1.41
IV06	My firm understands competitive situation before hand	0.75	2.24	1.41
IV07	My firm's new product generally has unique features	0.75	2.34	1.38
New Product Launch Success (Chronbach α = .90)				
DV01	My firm targets and appreciates sales force effort	0.60	2.22	1.33
DV02	My firm's production volume is adequate to meet demand	0.55	2.28	1.35
DV03	My firm is generally the first mover into the market with a new product	0.48	2.53	1.33
DV04	*My firm's new products reduce the customer base - Deleted*	-	2.34	1.49
DV05	My firm's salespersons have high intent to sell new products rigorously	0.95	2.31	1.39
DV06	My firm's salespersons are adequately informed about the new product features	0.96	2.34	1.49
DV07	My firm's new products increase the customer base	0.84	2.31	1.39

Structural model

The hypothesis successfully established and proved positive relationships (elaborated data in table 3). The final aggregate test of dependency of new product launch success was tested on firm innovation capability (Diagram: 1). The average DV01-07 excluding DV04 represented by DVE and IV01-07 represented by IVE was considered for the same. The test proved positive relationship between both [R-square= 0.5608 F value= 187.686, significant t value (Beta) = 13.7 and p-value < 0.05]]

IVE = .75 + .749(DVE)

Post hoc Analysis

The post hoc analysis was conducted using the bi-variate correlation. To validate the value of Beta (Standardized Coefficient), we dug down deeper into the correlations between the variables of the construct (presented by Table 3).

Table 3: Correlations between the different Independent variables with the dependent

Correlations	DVE	IV01	IV03	IV06	IV07	IV02	IV04	IV05
DVE	1	.576**	.571**	.617**	.647**	.604**	.521**	.591**

** Correlation is significant at the 0.01 level (2-tailed).

All the correlations were significant at the 0.01 level (2-tailed), (Table-3) the maximum significance of new product launch success was observed with the fact of products having unique features. The correlation was of .647. Also, firm's production strength and its understanding of the competitive market was significantly correlated with new product launch success with the correlation score of .602 and .617 respectively. These significant correlations explain the reasons behind the positive relationship in between firm's innovation ability and a new product's launch success.

Conclusion

This study gives a substantial contribution by casting light on whether and under what circumstances, alliance of innovation networks enhances the new product launch success in tech-intensive organizations. One of the underlying reasons for this finding can be attributed partly to the high level of uncertainties in the emerging market like India. In such typical environment, it is observed that executives become reluctant in sharing any confidential

information and data regarding their new products, this can be an important factor which can impact the effectiveness of inter-firm partnerships.

The manufacturing sector in India still operates widely on a traditional basis, despite the rapid growth that has been experienced recently. In particular, the tertiary sector has access to new technologies, and for such reason, the technology being used in these sectors is relatively new.

All these conditions accounted together have amplified the expectations of customers for prevailing products that industry is trying to meet. As an outcome, service sector firms are focusing on customer demands in the product design stages itself of their new product development and so have been able to contributing to more than half of the Indian GDP.

Limitations

This study focuses on new product launch success as an output of the innovation ability. Although it might be difficult to access information on new product launch success yet, still launch success can capture the complete innovative performance of firms. Our work has certain limitations that can be addressed by future research. One, the research did not take into account the company-level promotion and advertising as it was not central to competitor actions in the industry. This factor can be included in market studies in which it is a critical part of the activities of the competitors or of long-term action analysis. Interestingly, the study should be extended to such markets. The interpretation and generalization of our findings is another limitation of this study. Although some studies have suggested the important role of the sales force during the launch of new products (Atuahene-Gima 1997), but the extent to which the intentions of the sales force contribute to the new product performance may vary in different industries.

Future Scope

Future researches can examine how overall firm financial success is influenced by new product launch capability. Other determinants of new product launch in emerging markets, which foster or hinder innovation efforts in emerging markets could also be identified. Also, we did not differentiate between incremental, or radical innovation which studies can take factor in account. The industries can be examined by future researchers on how to identify potential customers and use their feedback in developing new product concepts that are disruptive in nature.

References

Adams-Bigelow, Marjorie. (2006). Rejoinders to "establishing an NPD best practices framework". *Journal of Product Innovation Management, 23(2), 117-127.*
Akman, G., & Yilmaz, C. (2008).

Ahuja, G. (2000). Collaboration networks, structural holes, and innovation: A longitudinal study. *Administrative science quarterly*, *45*(3), 425-455.

Atuahene-Gima, K. (1996). Market orientation and innovation. *Journal of business research*, *35*(2), 93-103.

Atuahene-Gima, K. (1997). Adoption of new products by the sales force: The construct, research propositions, and managerial implications. *Journal of Product Innovation Management: AN INTERNATIONAL PUBLICATION OF THE PRODUCT DEVELOPMENT & MANAGEMENT ASSOCIATION*, *14*(6), 498-514.

Baker, W. E., & Sinkula, J. M. (2007). Does market orientation facilitate balanced innovation programs? An organizational learning perspective. *Journal of product innovation management*, *24*(4), 316-334.

Becker, T. E., Atinc, G., Breaugh, J. A., Carlson, K. D., Edwards, J. R., & Spector, P. E. (2016). Statistical control in correlational studies: 10 essential recommendations for organizational researchers. *Journal of Organizational Behavior*, *37*(2), 157-167.

Bharadwaj, S. G., Varadarajan, P. R., & Fahy, J. (1993). Sustainable competitive advantage in service industries: a conceptual model and research propositions. *The Journal of Marketing*, 83-99.

Calantone, R., & Cooper, R. G. (1981). New product scenarios: Prospects for success. *The Journal of Marketing*, 48-60.

Cooper, R. G. (1979). The dimensions of industrial new product success and failure. *The Journal of Marketing*, 93-103.

Day, G.S. Wensley, R. (1988). Assessing advantage: A framework for diagnosing competitive superiority. *Journal of Marketing*, *52*(2), 1-20.

De Brentani, U., & Kleinschmidt, E. J. (2004). Corporate culture and commitment: impact on performance of international new product development programs. *Journal of product innovation management*, *21*(5), 309-333.

Dewar, R. D., & Dutton, J. E. (1986). The adoption of radical and incremental innovations: An empirical analysis. *Management science*, *32*(11), 1422-1433.

Fang, E. (2011). The effect of strategic alliance knowledge complementarity on new product innovativeness in China. *Organization Science*, *22*(1), 158-172.

Fu, F. Q., Jones, E., & Bolander, W. (2008). Product innovativeness, customer newness, and new product performance: a time-lagged examination of the impact of salesperson selling intentions on new product performance. *Journal of Personal Selling & Sales Management*, *28*(4), 351-364.

Govindarajan, V., & Kopalle, P. K. (2006). Disruptiveness of innovations: measurement and an assessment of reliability and validity. *Strategic Management Journal*, *27*(2), 189-199.

Gupta, A. K., Raj, S. P., & Wilemon, D. (1986). A model for studying R&D. Marketing interface in the product innovation process. *The Journal of Marketing*, 7-17.

Hardaker, G., Ahmed, P. K., & Graham, G. (1998). An integrated response towards the pursuit of fast time to market of NPD in European manufacturing organisations. *European Business Review*, *98*(3), 172-177.

Henard, D. H., & Szymanski, D. M. (2001). Why some new products are more successful than others. *Journal of marketing Research*, *38*(3), 362-375.

Huo, B., Han, Z., Chen, H., & Zhao, X. (2015). The effect of high-involvement human resource management practices on supply chain integration. *International Journal of Physical Distribution & Logistics Management*, *45*(8), 716-746.

Hoonsopon, D., & Ruenrom, G. (2012). The impact of organizational capabilities on the development of radical and incremental product innovation and product innovation performance. *Journal of Managerial Issues*, 250-276.

Im, S., & Workman Jr, J. P. (2004). Market orientation, creativity, and new product performance in high-technology firms. *Journal of marketing, 68*(2), 114-132.

Jarillo, J. C. (1988). On strategic networks. *Strategic management journal*, *9*(1), 31-41.

Kogut, B., & Zander, U. (1992). Knowledge of the firm, combinative capabilities, and the replication of technology. *Organization science*, *3*(3), 383-397.

Kor, Y. Y., & Leblebici, H. (2005). How do interdependencies among human-capital deployment, development, and diversification strategies affect firms' financial performance? *Strategic Management Journal, 26*(10), 967-985.

Krishnan, V., & Zhu, W. (2006). Designing a family of development-intensive products. *Management science*, *52*(6), 813-825.

Lippman, S. A., & Rumelt, R. P. (2003). A bargaining perspective on resource advantage. *Strategic Management Journal, 24*(11), 1069-1086.Najafi-Tavani, S., Najafi-Tavani, Z., Naudé, P., Oghazi, P., & Zeynaloo, E. (2018). How collaborative innovation networks affect new product performance: Product innovation capability, process innovation capability, and absorptive capacity. *Industrial Marketing Management*

Nijssen, E. J., & Frambach, R. T. (2000). Determinants of the adoption of new product development tools by industrial firms. *Industrial Marketing Management*, *29*(2), 121-131.

Narver, J. C., & Slater, S. F. (1990). The effect of a market orientation on business profitability. *The Journal of marketing*, 20-35.

Nerkar, A., & Roberts, P. W. (2004). Technological and product-market experience and the success of new product introductions in the pharmaceutical industry. *Strategic Management Journal*, *25*(8-9), 779-799.

Olson, E. M., Walker Jr, O. C., & Ruekert, R. W. (1995). Organizing for effective new product development: The moderating role of product innovativeness. *The Journal of Marketing*, 48-62.

Peters, L. S. (2006). Rejoinders to "establishing an NPD best practices framework". *Journal of Product Innovation Management*, *23*(2), 117-127.

Rindfleisch, A., & Moorman, C. (2001). The acquisition and utilization of information in new product alliances: A strength-of-ties perspective. *Journal of marketing, 65*(2), 1-18.

Shankar, V. (2006). Proactive and reactive product line strategies: asymmetries between market leaders and followers. *Management Science, 52*(2), 276-292.

Shan, W., Walker, G., & Kogut, B. (1994). Interfirm cooperation and startup innovation in the biotechnology industry. *Strategic management journal, 15*(5), 387-394.

Sirmon, D. G., Gove, S., & Hitt, M. A. (2008). Resource management in dyadic competitive rivalry: The effects of resource bundling and deployment. *Academy of Management Journal, 51*(5), 919-935.

Sivadas, E., & Dwyer, F. R. (2000). An examination of organizational factors influencing new product success in internal and alliance-based processes. *Journal of marketing*, *64*(1), 31-49.

Song, M., Dyer, B., & Thieme, R. J. (2006). Conflict management and innovation performance: An integrated contingency perspective. *Journal of the Academy of Marketing Science*, *34*(3), 341-356.

Van den Bulte, C., & Moenaert, R. K. (1998). The effects of R&D team co-location on communication patterns among R&D, marketing, and manufacturing. *Management Science*, *44*(11-part-2), S1-S

Varadarajan, P. R., & Cunningham, M. H. (1995). Strategic alliances: a synthesis of conceptual foundations. *Journal of the Academy of Marketing Science*, *23*(4), 282.

Wuyts, S., Dutta, S., & Stremersch, S. (2004). Portfolios of interfirm agreements in technology-intensive markets: Consequences for innovation and profitability. *Journal of marketing, 68*(2), 88-100.

Impact of innovation on firm performance: An evidence from Indian manufacturing industries

[1]S. Kumar, [2]Sumit and [3]A. K. Gupta
Operations Management Area
Management Development Institute Gurgaon, India-122001

Abstract:

In this rapidly changing business environment, innovation is the key requirement for any firm to gain sustainable competitive advantage because it is this innovation which can be leveraged by the firms for product and process improvements that may be breakthrough as well as continuous. It is due to innovation that some firms grow more quickly than others, survive in the harsh & highly competitive business environment and eventually become more money making than their rivals. The key objective of current study is to evaluate the relationships between types of innovation and the dimension of firm performance (FrP). The survey of current study was done on executives from Indian manufacturing firms belonging to construction, apparel, automobile Smartphone, laptop, OEM in telecom, and transmission tower sector. The data obtained through the survey questionnaire is analyzed through statistical package for social science (SPSS). The results showed that product innovation (PI) and marketing innovation (MI) has significant and positive impact on dimensions of FrP, but no evidence was found for a direct effect of process innovation (PrI) on the dimension of FrP.

Keywords: Firm performance, Innovation, Product innovation Marketing innovation, Process innovation, Internal Business Process Performance, Financial Performance.

.

1.0. Introduction

In this rapidly changing business environment, innovation is the key requirement for any firm to gain sustainable competitive advantage because it is this innovation can be leveraged by the firms for product and process improvements that may be breakthrough as well as continuous. It is due to innovation that some firms grow more quickly than others, survive in the harsh & highly competitive business environment and eventually become more money making than their rivals. Innovation vis-à-vis business means presenting somewhat novel into the business that may be processes, products or ideas. Innovation is part of long term business strategy and it will not only improve the probabilities of a particular business surviving, but also help it to

flourish and get improved profits. Innovation strategy plays a very crucial role in achieving sustainable competitive advantage over other firms.

It is pertinent to mention that organizations/firms that choose the bright but challenging path of innovation contribute meaningfully to the domestic as well as global economic growth. This can be observed if we see countries like Germany, South Korea, USA & Japan, which show the highest R&D investment intensity or highest patent activity, are the leaders in terms of economic advancement (Ahmed and Shepherd, 2010).

This research investigates the relationship between innovation and *FrP* in Indian industries. Literature suggests multiple types of innovation such as product, process, organization, and marketing. Researchers has used combination of these types in their studies. Atalay et al. (2013) studied the relationship between four dimensions of innovation (product, process, marketing and Organizational) and *FrP* in Turkish automotive supplier industry. Gunday et al. (2011); OECD Oslo Manual (2005) have also taken four dimensions of innovation.

For our study, we have taken three dimensions of innovation. They are PI, PrI and MI as independent variables

Product innovation (PI) means the launch of a good/service that is novel and considerably enriched vis-à-vis its individualities or anticipated usages. Product innovation attitude of a firm can be recognized through its actual new product launches in response to the market requirement, its flexibilities to incorporate new product lines and anticipate demands of the customized products (OECD/Eurostat (1997).

Process Innovation (PrI) means the application of a novel or considerably value-added series of activities. It consists of substantial modifications in activities, tasks, procedures and proceedings. Process innovation can be represented by factors such as whether a company imports advanced automatic quality restriction equipment/software, a company adopts advanced real-time process control technology, and a company imports advanced programmable equipment (OECD/Eurostat (1997); Atalay et al. (2013).

Marketing innovation (MI) is the enactment of a new marketing technique involving major variations in design or looks/packaging of product, product placement, product branding or even pricing. Marketing innovation can be represented by factors such as whether a company leads innovative promoting methods to markets, a company leads innovative distributing methods to markets, and a company continually enlarges potential demand markets Gunday et. al. (2011).

Similarly, researchers in the literature adopt different dimension of *FrP*. This ranged from simple two dimension of financial and non-financial to four dimension based on balance scorecard.

Firm performance (FrP) is a multi-dimensional notion whose indicators can be functional or departmental (related to production, finance or marketing) or sequential (related to growth and profit). Balanced scorecard framework given by Kaplan & Nortan (1993) uses four dimensions of *FrP*. They are financial performance (FP), customer satisfaction (CP), and internal business process (IBPP) and learning & growth performance (LGP).

In this study, the scales and constructs of *FrP* have been adapted from Karabulut (2015) which is based on Balance scorecard framework given by Kaplan & Nortan (1993). This study takes two dimension, namely, financial performance (FP) and internal business process performance (IBPP).

Financial performance (FP) is a way to satisfy investors (Chakravarthy, 1986) and can be represented by market value, profitability, and growth (Venkatraman & Ramanujam, 1986). It can also be represented by market share, ROI, profitability, productivity, inventory turnover and sales revenues of new products (Karabulut, 2015).

Internal Business process performance (IBPP) contributes to efficiency of an organization, and provides more values to internal and external stakeholders and better fulfills customer's needs. It can be represented by ratio of number of new products to total, technology for new processes, production costs or cost of operations ,technology for new product development, duration of production/service, time to market, defective product rate/repeat service, and rate of On-time-delivery of products (Karabulut, 2015).

To test the hypothesis, we have collected samples of 150+ middle & higher management executives from Indian manufacturing firms belonging to construction, apparel, automobile, smart phone, laptop, OEM in telecom, and transmission tower sector. We used established scales to measure types of innovation and dimensions of *FrP*. In the proceeding sections, we will discuss hypothesis generation, research methods, result analysis & conclusion.

2.0.   Hypothesis Generation

In literature, different researchers have studied the impact of various types of innovation on different dimensions of *FrP*. Calantone et al. (2002), established an outline for analyzing the associations among learning orientation, firm innovativeness and *FrP* in service and manufacturing industries of USA. Gunday et al. (2011) examined the percussions of all four types of Innovation on the diverse facets of *FrP* in manufacturing firms of Turkey. In the

proceeding section, Hypothesis is generated between the types of Innovation and two dimension of FrP i.e. FP and IBPP.

2.1 PI and dimensions of FrP

This topic stated to show importance with the Schumpeter's work (1934) where it showed a significant effect of innovation on FrP. Ida D'Attoma and Silvia Pacei (2016) concluded that high levels of product innovation intensity have significant positive effects on the profitability rate but no effect on productivity rate. Tuan et Al. (2016) concluded that product innovative performance has no impact on any type of *FrP*. Waqar Wadho & Azam Chaudhry (2018) studies textile & apparel firms in Pakistan and found that product innovation leads to increased labor productivity as well as higher labor productivity growth. Based on the literature discoveries and inconsistent relationship between the constructs we propose following hypotheses:

H1: PI has a positive impact on FP in Indian manufacturing firms

H1a: PI has a positive impact on IBPP in Indian manufacturing firms.

2.2 PrI and its impact on dimensions of FrP:

Tuan et Al. (2016) working on Vietnamese firm, suggested to Put effort on PrI, MI and organizational innovation rather on PI, in order to improve the *FrP* (production, market, and financial performance). Fagerberg et al. (2004) on other hand stressed that process innovation can have a nebulous effect due to its cost-cutting nature.

For a company to sustain, apart from product innovation, we feel process innovation in organization is must. Therefore, we propose following hypothesis:

H2: PrI has a positive and significant impact on FP in Indian manufacturing firms.

H2a: PrI has a positive and significant impact on IBPP in Indian manufacturing firms.

2.3 MI and its impact on dimensions of FrP:

Atalay et Al. (2013) testing in turkey automotive supplier industries found that marketing innovation didn't have significant impact on *FrP*. Han et al. (1998) examined the associations among market orientation, innovation and *FrP* in the Banking industry of USA. They found that market oriented corporate culture will facilitate organizational innovativeness, which will help in having improved corporate performance.

Based on the above-mentioned findings in the existing literature, the following hypotheses in the Indian industries context are proposed:

H3: MI has a positive and significant impact on FP in Indian manufacturing firms.

H3a: MI has a positive and significant impact on IBPP in Indian manufacturing firms.

The above investigation on prima facie indicates an inconsistence relationship between types of Innovation and FrP. Finding also suggest investigation is still required especially in Indian context, where research in this area is meek. This gives clear gap and purpose to do research on this topic. We are very excited to observe our finding and communicate to the world. We would be testing six hypotheses with the combination of three dimensions of innovation and two dimensions of *FrP* as shown in fig 1.0
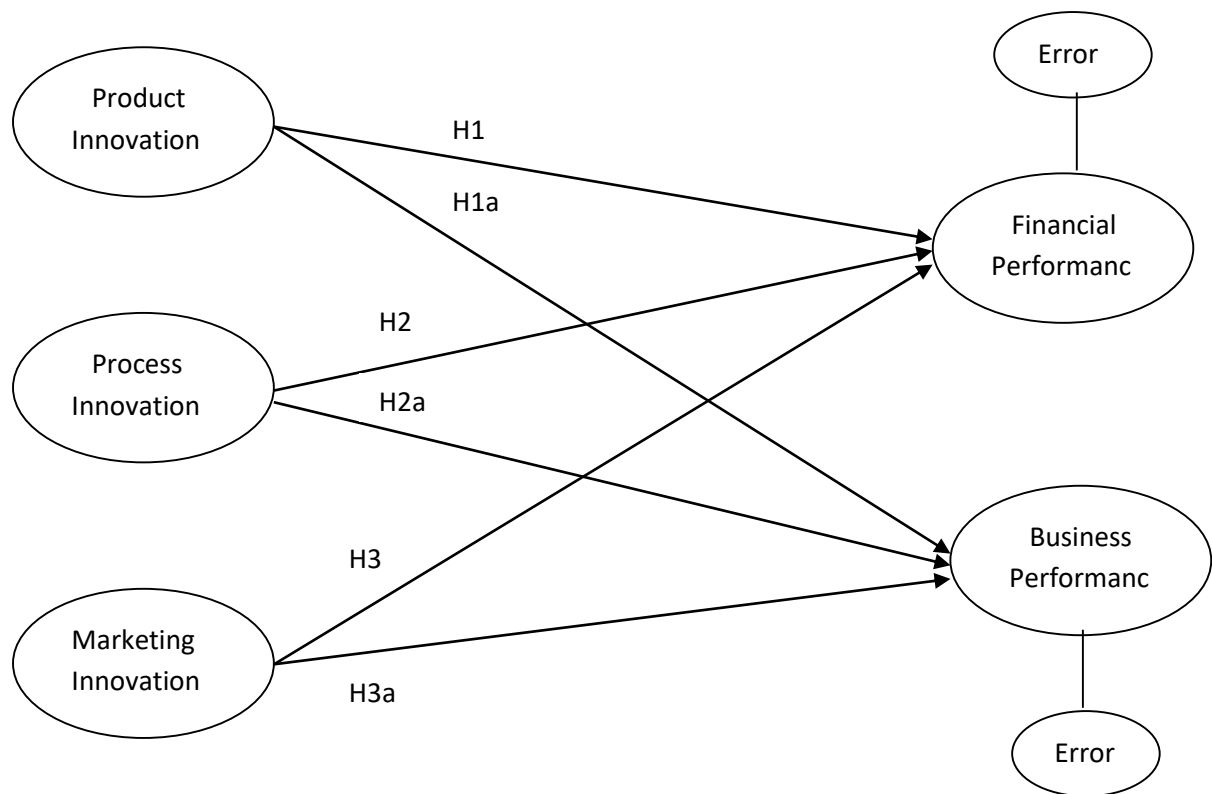
Fig 1.0 Theoretical Model

3.0.   Research methods

3.1 Scale

Measures for PI, PrI and MI are adopted from well tested and validated scale developed by Atalay et Al. (2013). 7-point likert-type Scale is used to get the response where 1 represent "strongly disagree" while 7 represent "strongly agree". (Appendix)

Similarly, measures for the dimension of *FrP* i.e. FP and IBPP were also adopted from well stablished and validated scale developed by Karabulut, (2015). 7 point Likert-type scale was

used to measure the response where 1 represent "Well below Average" while   7 as "Well above Average". (Appendix)

3.2.Sample/sampling method/demography and Data Cleaning

Sample size was selected based on the 1:5 rule where 1 represent the manifest and 5 as sample size (Hair et al. (2010)). This rule also gives an idea about the sample size of 100-150 for this study, if minimum commonalities is more than 0.50. Cliff (1987) recommends a sample size of 150 for 40 variables (item statements) in a scale. Since we have 10 manifest for types of Innovation and 14 for the dimension of FrP. Hence, total of 24 manifests. Based on 1:5 rule, sample size required would be 120. We have collected 150+ clean sample for testing the hypothesis.

Response were collected through different survey communication methods. The questionnaire were administered through e-mail surveys, hardcopy questionnaire posting to the respondents and face-to-face interviews of the executives... The questionnaire was floated to 400 executives (middle and senior management) in India through email and hard print copies. After various rounds of phone callings and periodic reminders, a total of 200+ complete questionnaires were collected from various respondents.

After receiving the Questionnaire, the respondent who have not answered more than 10% of the items were rejected as per the practices. The questions having variability less than 0.5 were also rejected. Finally, Mahalanobis (1936) test was used to remove multivariate outlier. After the data cleaning process we end up with a sample of 150+.

3.3.Reliability

Reliability test was carried out to test the consistency of the construct. Cronbach's alpha for all the construct were calculated. Cronbach Alpha should be greater than 0.7 (Hair et. al 2010), which signifies the reliability of the constructs. SPSS tool was used to calculate the values for the Cronbach's alpha.

Table 1: Cronbach's alpha value of the constructs

Construct	Cronbach's alpha
PI	0.9
PrI	0.85
MI	0.92

FP	0.98
IBPP	0.96

4.0. Data analysis and results

Aim of the research is to find the impact of innovation types on different dimension of FrP as developed in section 2.0. We used SPSS tool for data analysis and hypothesis testing. Factor analysis was performed using maximum likelihood extraction method with Promax rotation. This was done to confirm the constructs and its definition through the manifest adopted from the literature. Result of the outcome is shown in Table 2.

Table 2: Result of factor analysis and descriptive of the Manifests.

Constructs	Manifest	Estimates (β)	Mean (M)	Std. Deviation (SD)
PI	PI1	0.869	4.78	1.90
	PI2	0.866	4.74	1.81
	PI3	0.858	4.99	1.69
	PI4	0.789	5.16	1.71
PrI	PrI1	0.799	5.28	1.62
	PrI2	0.854	4.95	1.85
	PrI3	0.796	4.80	1.88
MI	MI1	0.908	4.95	1.70
	MI2	0.917	5.03	1.63
	MI3	0.85	5.14	1.52
FP	FP1	0.934	4.25	2.06
	FP2	0.946	4.08	1.89
	FP3	0.944	4.28	1.88
	FP4	0.954	4.25	1.87
	FP5	0.955	4.11	1.86
	FP6	0.94	4.10	1.89
IBPP	BP1	0.913	4.25	2.09
	BP2	0.937	3.91	1.91
	BP3	0.951	4.00	2.02

BP4	0.889	3.90	1.95
BP5	0.928	3.98	1.97
BP6	0.902	3.89	1.98
BP7	0.794	3.49	1.98
BP8	0.928	4.16	2.01

4.1. Hypothesis testing

Linear regression was performed using SPSS tool between Innovation types and FP & IBPP.

Outcome of the SPSS is shown below.

1. Multiple regression result show impact of innovation types on FP

Table 3: ANOVA

Model 1	Sum of Squares	df	Mean Square	F	Sig.
Regression	43.86	3.00	14.62	18.42	0.000
Residual	170.63	215.00	0.79		
Total	214.49	218.00			

Table 4: Model Summary

R	R-square	Durbin-Watson
0.45	0.2	1.81

Table 5:Coefficients

	Model	Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
aFP	(Constant)	-5.383E-18	0.060		0.000	1.000		
	PI	0.228	0.100	0.221	2.287	0.023	0.397	2.519
	PrI	0.265	0.109	0.260	2.421	0.016	0.320	3.126
	MI	0.005	0.114	0.005	0.046	0.963	0.311	3.215

a. Dependent Variable: FP

2.   Multiple regression result show impact of innovation types on IBPP.

Table 7: Model Summery

R	R-square	Durbin-Watson
0.55	0.3	1.74

Table 8: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
IBPP	(Constant)	-3.349E-17	0.056		0.000	1.000		
	PI	0.188	0.093	0.183	2.021	0.044	0.397	2.519
	PrI	0.311	0.103	0.305	3.028	0.003	0.320	3.126
	MI	0.111	0.107	0.107	1.042	0.299	0.311	3.215
a. Dependent Variable: IBPP								

5.0.   Final finding and conclusion :

Three types of Innovations are taken as the independent variable and their impacts was measured on FP and IBPP. Multi-collinearity effect of three type of innovation were tested using Durbin-watson test and calculating VIF & Tolerance values. Durban-watson value close to 2 signifies absence of multi-collinearity among PI, PrI and MI. similarly VIF value of greater than 5 or

Table 6: ANOVA

Model 2	Sum of Squares	df	Mean Square	F	Sig.
Regression	64.40	3.00	21.47	30.81	0.000
Residual	149.81	215.00	0.70		
Total	214.21	218.00			

Tolerance value less than 0.2 signifies absence of multi-collinearity. From Table 4&5 and Table 7&8, values are within the non-collinearity range.

Anova test in regression suggest about model fitment. If p-value of Anova is smaller than the critical value (if Anova is significant), than model is fit. From Table 3&6 we can say that models in both the cases are fit enough. In other words, predictors (innovation types) are able to explain the dimension of FrP.

From Table 5, it can be observed that PI and PrI has positive and significant impact on FP but we fail to establish the impact of MI on PF at 95% CL. Similarly from Table 8, PI and PrI shows a significant and Positive impact on IBPP while MI does not show significant impact on IBPP at 95%CL.

We can conclude the following as in Table 9.

Table 9: Final outcome of Hypothesis.

Hypothesis	**Outcome**
H1: PI has a positive impact on FP in Indian manufacturing firms	Accepted
H1a: PI has a positive impact on IBPP in Indian manufacturing firms	Accepted
H2: PrI has a positive and significant impact on FP in Indian manufacturing firms.	Accepted
H2a: PrI has a positive and significant impact on IBPP in Indian manufacturing firms.	Accepted
H3: MI has a positive and significant impact on FP in Indian manufacturing firms.	Rejected
H3a: MI has a positive and significant impact on IBPP In Indian manufacturing firms.	Rejected

The main goal of this research was to scrutinize the relationships between various innovation types and firm performance within the context of the Indian manufacturing industries. The most remarkable result from this study was that, among the three types of innovation, only product and process innovation positively and expressively affects the firm performance. Therefore, the hypotheses H1 (Product innovation has a positive impact on firm performance) and H2 (Process innovation has a positive impact on firm performance) are accepted.

It can be understood from this research that firms should put distinctive emphasis on product and process innovations as these types of innovation are found to be essential tools for accomplishing sustainable competitive advantage.

6.0.   Limitation and Future Scope

The model obtained is fit and enough to give indicative outcome. But statistically, it is not best fit as the value of r-square is small. Reason could be sample size. If larger population and higher

number of manufacturing company across different geography is investigated, it is possible to get best fit.

In Future course, we may reach to similar geography and we will compare the result of this research. We will also try to analysis the indirect impact of MI on FrP.

References

OECD/Eurostat (1997), Proposed Guidelines for Collecting and Interpreting Technological Innovation Data, Oslo Manual, Paris: OECD.

OECD/Eurostat (2005), Oslo Manual, Guidelines for Collecting and Interpreting Innovation Data, Paris: OECD.

Calantone, R.J., Cavusgil, S.T. and Zhao, Y. (2002), Learning orientation, firm innovation capability, and firm performance, Industrial Marketing Management, 31(6), pp.515-524.

Gunday, Gurhan & Ulusoy, Gunduz & Kilic, Kemal & Alpkan, Lutfihak, (2011). "Effects of innovation types on firm performance," International Journal of Production Economics, Elsevier, vol. 133(2), pages 662-676, October.

Schumpeter, J.A. (1934), The Theory of Economic Development, Harvard University Press, Cambridge.

Han, J. K., Kim, N. and Srivastaka, R.K. (1998), Market orientation and organizational performance: Is innovation missing link? Journal of Marketing, 62, pp.30-45.

Ahmed, P.K. and Shepherd C.D. (2010), Innovation management: context, strategies, systems and processes, Pearson Education Limited, Harlow.

World Intellectual Property Organization (WIPO), https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2018.pdf, accessed on 30.12.2018.

Kaplan, R. S. and D.P. Norton (1992) The Balanced Scorecard: Measures that Drive Performance, Harvard Business Review, (January-February): 71-79.

Hair, J.F., Black, W.C., Babin, B.J., & Anderson, R.E. (2010).Multivariate Data Analysis. Seventh Edition. Prentice Hall, Upper Saddle River, New Jersey.

Cliff, N. (1987). Analyzing multivariate data. San Diego, CA, US: Harcourt Brace Jovanovich.

Mahalanobis, P.C. (1936) On the Generalized Distance in Statistics. Proceedings of the National Institute of Science of India, 2, 49-55.

Karabulut, A.T., 2015. Effects of Innovation Types on Performance of Manufacturing Firms in Turkey. Procedia - Soc. Behav. Sci.

D'Attoma, Ida & Pacei, Silvia. (2016). Evaluating the Effects of Product Innovation on the Performance of European Firms by Using the Generalised Propensity Score. German Economic Review. 19. 10.1111/geer.12122.

Tuan, N., Nhan, N., Giang, P., & Ngo, N. (2016). The effects of innovation on firm performance of supporting industries in Hanoi –Vietnam. Journal of Industrial Engineering and Management. 9 (2). 413-431

Wadho, Waqar & Chaudhry, Azam, 2018. "Innovation and firm performance in developing countries: The case of Pakistani textile and apparel manufacturers," Research Policy, Elsevier, vol. 47(7), pages 1283-1294.

Fagerberg, J., Mowery, D.C., Nelson, R.R., 2004. The Oxford Handbook of Innovation. Oxford University Press, USA.

Venkatraman, N. and Ramanujam, V. (1986) Measurement of Business Performance in Strategy Research: A Comparison of Approaches. Academy of Management Review, 11, 801-814.

Measuring strategic performance, BS Chakravarthy - Strategic management journal, 1986 - Wiley Online Library

APPENDIX

Constructs	Manifest	Code
PI	Launches new products	PI1
	Extends numbers of product lines	PI2
	With NPD (new product development), Enlarges new markets	PI3
	Launches customized products according to market demands	PI4
PrI	Adopts advanced real-time process control technology	PrI1
	Imports advanced automatic quality restriction equipment/software	PrI2
	Imports advanced programmable equipment	PrI3
MI	Leads innovative distributing methods to markets	MI1
	Leads innovative promoting methods to markets	MI2
	Continually enlarges potential demand markets	MI3
FP	Market share	FP1
	Sales revenues of new products	FP2
	Profitability	FP3
	Productivity	FP4
	ROI	FP5
	Inventory turnover	FP6
IBPP	Technology for new processes	BP1
	Ratio of number of new products to total	BP2
	Technology for new product development	BP3
	Production costs or cost of Operations	BP4
	Duration of production/service	BP5
	Duration to launch a new product/Service	BP6
	Defective product rate/repeat service	BP7
	Rate of On-time-delivery of products	BP8

Indian Start-ups: Entrepreneur's view on the Personality traits and Risk Appetite of potential employees

Sreekanth Vemuri
Research Scholar
Jamnalal Bajaj Institute of Management Studies
University of Mumbai, Mumbai

Dr. Kavita Laghate
Director
Jamnalal Bajaj Institute of Management Studies
University of Mumbai, Mumbai

Abstract:

Globalization and technological advancements are adding fuel to business competition. To facilitate the growth, organizations, need to prepare for talent crunch at various levels and various stages of business cycle especially start-up companies, at a rapid pace so as to reach the optimum level of functioning. Being the second most populous country and a growing economy, India has seen many start-up companies booming in the last few years. To attract talent and contribute to the organization's innovation needs, it is important to understand what a start-up organization is looking in among the potential employees available from the target pool.

The study examines the factors/characteristics considered by the Start-up Entrepreneurs/Promoters and HR representatives while creating a talent pool with emphasis on Big Five personality traits and Risk appetite of individuals who wish to join a Start-up. The paper presents the analysis of the responses received to understand how start-ups are considering selection and recruitment of the employees to create an organization that has different requirement of skills. The research was quantitative in nature. An electronic questionnaire comprising of 24 questions was distributed randomly and responses from 32 start-up organizations have been received.

Keywords: Start-up, Entrepreneurship, Big Five Personality Traits, Risk Appetite, Talent Attraction, Recruitment and Selection

1.0. Introduction:

In an era where India is rapidly developing and aiming to reach global standards, Private organizations are trying to advance, adjust and adapt to ever changing and competitive business demands. Globalization and technological advancements are adding fuel to business competition. To facilitate the growth, organizations, need to prepare for talent crunch at various levels and various stages of business cycle especially start-up companies, at a rapid pace so as

to reach the optimum level of functioning. Being the second most populous country and a growing economy, India has seen many start-up companies booming in the last few years. To attract talent and contribute to the organization's innovation needs, it is important to understand what a start-up organization is looking in among the potential employees available from the target pool.

According to assurance, tax and advisory firm Grant Thornton [1], Start-ups continue to make the highest contribution to the private equity (PE) and venture capital (VC) deals space in 2016.

According to NASSCOM Start-up report 2017 [2], start-up mortality continues to be a key problem with majority of start-ups dying within 1.6-1.9 years of inception. It also states that 55% failed stat-ups had received funding.

In such scenarios, those who join a start-up company with a perceived reward over the risks will be left in the lurch and it may turn to be a drawback in their career. Alternatively, start-ups may find talent drain/attrition in the initial years of their operations due to a candidate misfit. Hence, it is imperative to focus on building manpower resource capability by the start-up organizations.

Apart from ease of doing business, the purpose or idea and the funds, for any organization whether it is from Technology industry or Pharma industry or any other industry the main differentiator is their manpower or Talent. In an ever changing business environment where the competition is fierce attracting and retaining talent is a challenge not only for a start-up organization but also for established ones.

The purpose of this research is to examine the factors/characteristics considered by the Start-up Entrepreneurs/Promoters and HR representatives while creating a talent pool with emphasis on Big Five personality traits and Risk appetite of individuals who wish to join a Start-up.

2.0.   Literature Review:

During the course of research, it was observed that a lot of work has been done independently in the fields of Risk Management, Personality traits, Manpower Capability and Start-ups.

Researcher was not able discover any examinations or past studies that have interlinked the above fields.

2.1. Risk and Risk Appetite

Table1: Concept of Risk & Risk Appetite

Type	Source/Author(s)	Description
Definition	International Organization for Standardization publication ISO 31000 (2009)/ ISO Guide 73:2002	Defined risk as an effect of uncertainty on objectives.
	Mark R Greene (1962)	Defined risk as uncertainty as to the occurrence of an economic loss
	Yates and Stone (1992)	Defined risk as the "degree of uncertainty and potential loss which may follow from a given behavior"
	Redja (2005)	Risk refers to uncertainty concerning the occurrence of a loss
	Gurol & Atsan (2006)	Risk taking as the tendency of an individual to show risk taking or risk avoidance attitude when faced with a risky situation
	Barlow D (1993)	The evolution of risk management" said that risk management tactics include risk avoidance, risk transfer, risk reduction and risk assumption. Corporations have created strategies for managing the pure risks associated with scientific research, market fluctuations, operations, engineering inventions, computer systems and liability.
Book: Entrepreneurial Behaviour, 1989	Bird, Barbara J	Author explains how people become and succeed as entrepreneurs in this book. He has devised an insightful explanation of the motivations and challenges all entrepreneurs must reconcile.

2.2. Personality Traits

Table2: Concept of Personality Traits

Type	Source/Author	Description
Definition	Gordon Willard Allport (1936)	An American psychologists and one of the first psychologists to focus on the study of the personality, and is often referred to as one of the founding figures of personality psychology defines Personality as "the dynamic organization within the individual of those psychophysical systems that determine his characteristics behaviour and thought"
	Philip J Corr Gerald Mathews	Defined Personality as the set of habitual behaviours, cognitions and emotional patterns that evolve from biological and environmental factors.
	Weinberg & Gould (1999)	Defined Personality as the characteristics or blend of characteristics that make a person unique.
	Kassin Saul (2003)	Defined Traits as habitual patterns of behaviour, thought, and emotion.
	Gordon Willard Allport Henry S Odbert (1936)	Identified "Trait" like words and categorized them into 3 trait levels, Cardinal, Central and Secondary
	Matthews Deary Whiteman (2003)	Termed that traits reflect basic dimensions on which people differ.

| Research Paper: Stability of personality traits in adulthood, 2013 | Allemand Mathias

Gruenenfelder-Steiger

Andrea E

Patrick L Hill | This paper gives an overview of the work on personality traits and their stability in adulthood. The basic premise researchers used was 'Stability' as a fundamental concept in developmental theory and research. Empirical evidence supporting change and stability of personality traits across the adult years was presented. Implications of trait stability for theory, research and application were also discussed.

Different environmental, biological and personal factors and their interactions might be responsible for the high levels of stability of personality traits in adulthood. |

2.3. The Five-factor Theory of Personality (Big Five):

Lewis Goldberg's personality theory which is also known as the Five Factor Model or the Big Five is the outcome of different studies that saw a repeated emphasis on certain personality traits to describe a person. Five factor model or Big 5 personality traits, organizes all personality traits on a continuum.

Big 5 personality traits:

1. Openness to experience (inventive/curious vs. consistent/cautious)
2. Conscientiousness (efficient/organized vs. easy-going/careless)
3. Extraversion (outgoing/energetic vs. solitary/reserved)
4. Agreeableness (friendly/compassionate vs. cold/unkind)
5. Neuroticism (sensitive/nervous vs. secure/confident)

2.4. Organizational Manpower Building Capability:

- Based on the available literature, we can define organizational capability as Ability and Capacity of an organization, expressed in terms of its Human resources, Physical and material resources, Financial resources, Information resources and Intellectual resources.

- Capability' as defined by Oxford dictionary, refers to the ability to perform or achieve certain actions or goals. Capability represents the intersection of capacity and ability.

- Capacity building has a distinctive implication and interpretation relying upon its use and the context it is used. It is by and large acknowledged that capacity building as a concept is firmly related to education, training and human resource development.

3.0.   Defining Risk Appetite Categories

Present literature on risk appetite is focused more from an organizational view. It does not clearly articulate the definition of Risk appetite of an individual. For the purpose of this research Risk Appetite of Job seekers is defined as the extent of Risk a Job seeker is willing to take to join a Start-up company vis-à-vis an established company.

Effective application of Risk appetite is to understand the individual risk tolerance. It is important to understand risk appetite as it has an impact on the decision making. Broadly five different levels of Risk appetite have been arrived at.

Below are the 5 levels of Risk appetite:

1. Averse: Complete avoidance of risk and uncertainty
2. Minimal: Preference for ultra-safe options that are low risk and only have a potential for limited reward
3. Cautious: Preference for safe options that have a low degree of risk and may only have limited potential for reward
4. Open: Willing to consider every potential alternative and pick the one which will bring out successful, while giving a worthy level of reward
5. Hungry: Eager to be innovative and to pick alternatives offering higher rewards in spite of greater risk

4.0.   Research Methodology

To meet the research objectives, empirical study is undertaken. A research instrument in the form of a questionnaire was administered. This study is exploratory in nature and is based on primary data.

4.1. Hypotheses

H_01: There is no preference among the Start-up representatives towards Risk appetite of job seekers in building organizational manpower capability

Ha1: There is no preference among the Start-up representatives towards Risk appetite of job seekers in building organizational manpower capability

$H_0 2$: There is no preference among the Start-up representatives towards dominant Personality Trait of job seekers in building organizational manpower capability

Ha2: There is no preference among the Start-up representatives towards dominant Personality Trait of job seekers in building organizational manpower capability

5.0.   Data Analysis and Interpretation

5.1. Findings

Table 3 depicting frequencies for the question "Is your organization Professionally Managed?"

Response	Frequency	Percentage	Cumulative Percentage
Yes	28	75.7	75.7
No	3	8.1	83.8
May be	6	16.2	100
Total	37	100	

Findings from Table3:
Majority of the respondents opined that their organization is professional managed. About one-sixth of the respondents were not sure whether their organization is professionally managed or not. 8% of the respondents had indicated that their organization is not professionally managed.

Table 4 depicting frequencies for the question "Is retaining Talent a Challenge for your organization?"

Response	Frequency	Percentage	Cumulative Percentage
Yes	12	32.4	32.4
No	21	56.8	89.2

May be	4	10.8	100
Total	37	100	

Findings from Table4:

Nearly one-third of the respondents feel that retaining talent is a challenge for their organization. More than 56% of the respondents feel that retaining talent is not a challenge for their organization.

Table 5 depicting frequencies for the question "Is Manpower capability building, one among top 3 priorities of your organization?"

Response	Frequency	Percentage	Cumulative Percentage
Yes	28	75.7	75.7
No	5	13.5	89.2
May be	4	10.8	100
Total	37	100	

Findings from Table5:

More than three-fourth of the respondents feel that Manpower capability building is one among the top 3 priorities of their organization.

Table 6 depicting frequencies for the statement "Most of the people who join Start-ups are high risk takers"

Response	Frequency	Percentage	Cumulative Percentage
Strongly Agree	6	16.2	16.2
Agree	13	35.2	51.4
Neutral	14	37.8	89.2
Disagree	4	10.8	100
Total	37	100	

Findings from Table6:
Majority of the respondents (51.4%) agree that the most of the people who join start-ups are high risk takers. Only 10.8% of the respondents disagree with the given statement. However, 37.8% of the respondents are neutral on the given statement.

Table 7 depicting frequencies for the statement "Do you think that personality influences people to make a decision to join a Start-up?"

Response	Frequency	Percentage	Cumulative Percentage
Yes	23	62.2	62.2
No	5	13.5	75.5%
May be	9	24.3	100
Total	37	100	

Findings from Table7:
62.2% of the respondents feel that Personality of an individual influences their decision to join a Start-up. 24.3% of the respondents were not completely sure about this and only13.5% of the respondents feel that there is no impact of personality on the decision to join a start-up.

Table 8 depicting the Ranking of Risk Appetite

	Rank					Weighted Mean
Risk Appetite	1	2	3	4	5	
Hungry	18	4	3	2	10	2.51
Open	6	14	1	11	5	2.86
Cautious	1	4	24	5	3	3.14
Minimal	0	12	5	18	2	3.27
Risk Averse	12	3	4	1	17	3.22

Findings from Table8:
Majority of the respondents have given Rank1 to Hungry category followed by Rank2 to open category and least to Risk Averse Category Weighted mean is calculated using the Rank wherein 1 is the highest and 5 is the least. This implies that the factor which is having the least mean amongst all the 5 categories will be the most preferred. Hence, Hungry category is most preferred by the start-up company representatives.

Table 9 depicting the Ranking of Personality Traits

	Rank					Weighted Mean
Personality	**1**	**2**	**3**	**4**	**5**	
Extroversion	7	7	6	6	11	3.19
Agreeableness	4	8	7	13	5	3.19
Conscientiousness	2	10	16	8	1	2.89
Neuroticism	9	6	5	7	10	3.08
Openness to Experience	15	6	3	3	10	2.65

Findings from Table9:
Openness to Experience is considered by majority of the respondents as a most dominating personality trait that is expected from the job seekers who apply for a job at a Start-up. This is followed by Conscientiousness.

Table 10: Chi-square Statistics

Confidence Level	Table Value of Chi Square	Degrees of Freedom	Parameter	Chi Square Value Obtained	Hypothesis Testing	Result
95% confidence level	26.29	16	Risk Appetite	141.35	Reject Null Hypothesis	There is a Significant impact
	26.29	16	Personality Traits	45.95	Reject Null Hypothesis	There is a Significant impact

Findings from Table10:
From the table it is evident that the chi-square statistics obtained is higher than the table value

of the chi-square. Hence, both the null hypotheses are rejected.

6.0.   Conclusion

- There is some preference among the start-up representatives towards Risk appetite of job seekers in building organizational manpower capability.
- There is some preference among the start-up representatives towards the most dominant Personality trait of a job seeker in building organizational manpower capability

7.0.   Limitations and Scope for Further Study

7.1. A major limitation of the study is that it is based on primary data and is a part of the thesis to be submitted by the primary author to the University of Mumbai.

7.2. Demographic profile of the start-up representatives has not be captured as most of them expressed discomfort in sharing their personal data. Hence demographic profile analysis could not be performed

7.3. Big Five personality traits were considered as they are widely accepted across the world. However, a further micro analysis may be take up on the personality traits

7.4. Further studies may be taken up using various other factors influencing the manpower capability building including Training, Emotional Intelligence etc.

7.5. Industry wise breakup of the Risk appetite and dominant Personality traits can be further studied.

8.0.   References

- Mark R Greene (1962), Risk and Insurance, 4th Ed, South Western Publishing Co., Cincinnati (1977)
- Yates, J.F. & Stone, E.R. (1992). The risk construct. In J.F. Yates (Ed.), Risk-taking behaviour. Chichester, UK: John Wiley
- Rejda GE (2005) Principles of Risk Management and Insurance, 9th ed. Addison-Wesley
- Bird, B.J. (1989). Entrepreneurial Behavior. Glenview, Ill: Scott Foresman
- Clare Brindley, (2005) "Barriers to women achieving their entrepreneurial potential: Women and risk", International Journal of Entrepreneurial Behavior & Research, Vol. 11 Issue: 2, pp.144-161
- Brockhaus, Robert H., Risk Taking Propensity of Entrepreneurs (1980). Academy of Management Journal, Vol. 23, Issue 3, p. 509-520 1980

- Begley, T.M (1995). Using founder status, age of firm and company growth rate as the basis for distinguishing entrepreneurs from managers of smaller business. Journal of Business Venturing 10

- Hassani, Bertrand, Risk Appetite in Practice: Vulgaris Mathematica (October 12, 2015). The IUP Journal of Financial Risk Management, Vol. XII, No. 1, March 2015, pp. 7-22

- Allport, G. W. (1937). Personality: A psychological interpretation. New York: H. Holt and. Company

- Corr, Philip J.; Matthews, Gerald (2009). The Cambridge handbook of personality psychology (1. publ. ed.). Cambridge, U.K.: Cambridge University Press. ISBN 978-0-521-86218-9

- Allport, G.W. & Odbert, H.S. (1936). Trait-names: A psycho-lexical study. Psychological Monographs, 47

- Matthews, G., Deary, I. J., & Whiteman, M. C. (2003). Personality traits. Cambridge, UK: Cambridge University Press

- Diener, E. & Lucas, R. E. (2018). Personality traits. In R. Biswas-Diener & E. Diener (Eds), Noba textbook series: Psychology. Champaign, IL: DEF publishers.

- Goldberg, L. R. (1971). A historical survey of personality scales and inventories. In P. McReynolds (Ed.), Advances in psychological assessment (Vol. 2, pp. 292–336). Palo Alto: Science and Behavior Books.

- Goldberg, L. R. (1981). Language and individual differences: The search for universals in personality lexicons. In L. Wheeler (Ed.), Review of personality and social psychology (Vol. 2, pp. 141–165). Beverly Hills: Sage.

- Goldberg, L. R. (1990). An alternative "description of personality": The big-five factor structure. Journal of Personality and Social Psychology, 59, 1216–1229

- Goldberg, L. R. (1992). The development of marker scales for the Big-Five factor structure. Psychological Assessment, 4, 26-42. DOI: 10.1037/1040-3590.4.1.26

- Digman, J. M. (1990). Personality structure: Emergence of the five-factor model. Annual Review of Psychology, 41, 417-440

- Ewen, R. B. (1998). Personality: A topical approach: Theories, research, major controversies, and emerging findings. Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers

- Allemand, Mathias; Gruenenfelder-Steiger, Andrea E; Hill, Patrick L (2013). Stability of personality traits in adulthood. GeroPsych, 26(1):5-13

- McAdams, D. P. (1992). The Five-Factor Model In Personality: A Critical Appraisal. Journal of personality, 60(2), 329-361.

Web references:

1. http://www.grantthornton.in/en/press/press-releases-2017/startups-continue-to-receive-the-maximum-share-of-pe--vc-investment-says-the-fourth-wheel-2017---a-grant-thornton-in-india-report [http://www.grantthornton.in]

2. http://www.nasscom.in/knowledge-center/publications/indian-start-ecosystem-%E2%80%93-traversing-maturity-cycle-edition-2017

Interpretation of Personal Data Protection Requirement for Banking Industry

Kaushik Parmar

Jamnalal Bajaj Institute of
Management Studies, Mumbai

Prof. Venugopal Iyengar

Jamnalal Bajaj Institute of
Management Studies, Mumbai

ABSTRACT

As people are connecting with each other in cyberspace, we are increasingly becoming vulnerable to data threats. Predictive algorithms and big data foretelling the actions of users better than humans is a reality now. These algorithms are also being used to monitor and influence human behavior.

The recent Facebook-Cambridge Analytica data breach scandal has made us realize that we are unaware about how companies use our personal data surreptitiously for purposes which none of us have signed up for.

Today companies use AI for creating, executing, monitoring and performing several other tasks. There are vast datasets constantly being added to, which are frequently made up of personal data. Apart from basic user information and demographics, organizations - both private and public- may have access to huge quantities of personal and sensitive information. And individuals have little or no control over the data stored and used by them.

Companies start by collecting data which you entrust them with a hope that they are safe and secured; then your ISP collects data from your daily use of communication networks. They also procure data about yourself which can include education, ethnicity and job history or fish for information about the topics you talk about online. These online players are largely self-regulated by their terms of service and privacy policies, which are designed to make users give consent to the usage of their data as these companies wish. One of the major challenge is- how to protect our data and ensure the security of the information that we share over the digital platforms. There has been recent regulations laid out globally and few in draft stage for providing the end users and/or the customer some sense of relief by enforcing the requirements of personal data protection. However, how to comply with such complex and stringent requirements is also a challenge and hence this study is aimed at helping the financial sector primarily banking industry to understand the importance of personal data protection requirements.

A. KEY WORDS

Cyberspace, data threat, predictive algorithm, big data, personal data, AI, breach, privacy, security, data protection

B. INTRODUCTION

As banks transform to become fully digitized, providing the ultimate client experience, the pivotal nucleus will be the multiple channel accessibility and richness of CRM, social, personal and behavioral data. Understanding this information and exploiting it like never before will create the impetus for the bank's collective executive leadership to prioritize client data privacy and protection as a "Vanilla Standard" for the bank's new product and service offerings, as well as its broader enterprise cyber security and compliance framework.

An array of market forces in the new digital era is driving a profound impact on the retail banking sector and traditional banks as currently we know them (Fig1). Technological capabilities, regulatory requirements, and the consumer appetite for innovation and flexibility are creating an imperative to change. Online banking is now a core element of both retail banking operations and client expectations.
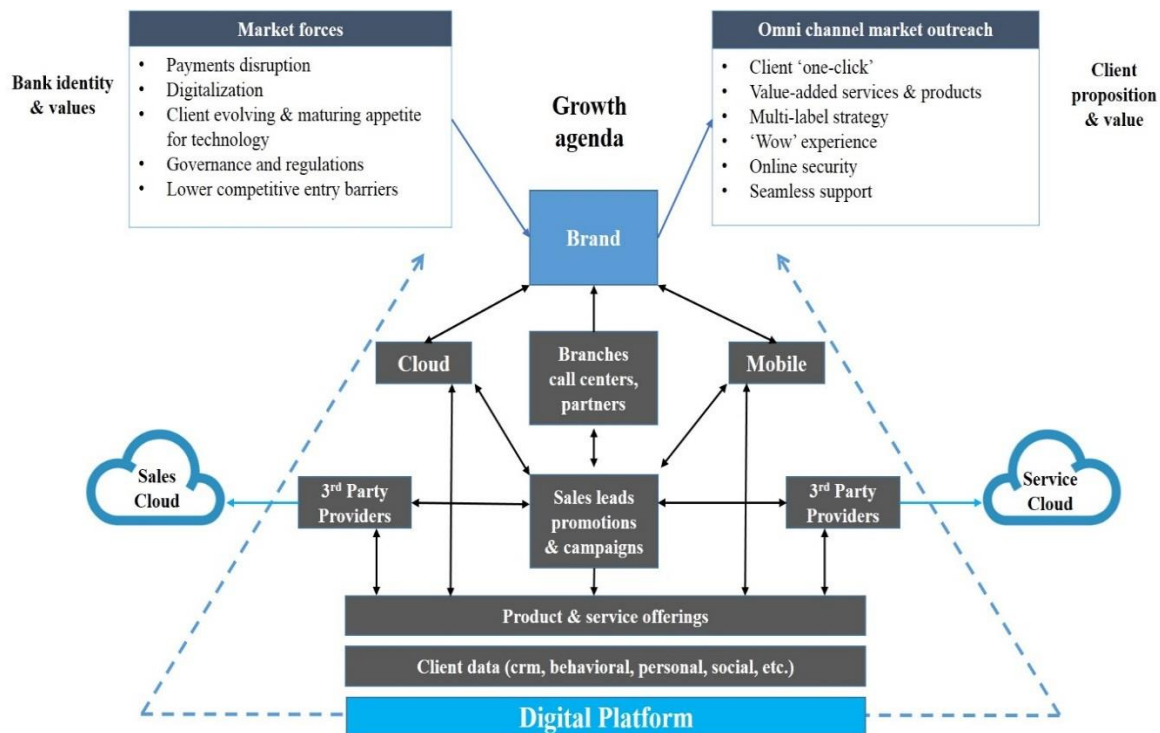
Figure 7 Retail Banking re-visualized: The heightened need for client data privacy and protection can be a catalyst of a retail banks

Digitalization growth agenda and client advocacy of the brand.

A new digital value chain promises to reshape how banks compete, operate, drive profitability and enhance interactions with clients. New channels for interactions and client engagement

now exist to compliment the evolving value of brick and mortar relationships of delivering client specific service and lasting experience with the intention of driving client loyalty, value-added service/product adoption and topline growth, through innovation and resource efficiency.

Financial transaction behavior has moved on in so many ways, creating a new model of banking, driven by the expectation of the individual, such that banks need to support them – new banks are often there first as they are not encumbered with legacy systems, technologies and architectures. This creates further pressure on the traditional banks who need to support their legacy environments while responding to the new requirements. Recent technological advances which need to be supported include new digital platforms and mobile apps (for example Apple Pay, Paytm, Bharat QR, Amazon Pay, Freecharge etc.) to carry out payment, without the need of a traditional bank or credit card. Of course, coupled with this are the various forms of client driven enhanced client digital outreach channels (including branches, mobility, apps and social media). Change in order to support these new mechanisms, at a speed the client expects, will involve usage, collaboration, movement and storage of client data on unprecedented levels. The increasing volume and importance of client data creates considerations related to the collection and treatment of data. The Basel Committee on Banking Supervision considered that while existing risk management principles remain applicable to e-banking activities, such principles must be tailored, adapted and, in some cases, expanded to address the specific risk management challenges created by the characteristics of e-banking activities. To meet customers' expectations, banks must therefore have effective capacity, business continuity and contingency planning. Banks should also develop appropriate incident response plans, including communication strategies that ensure business continuity, control reputation risk and limit liability associated with disruptions in their e-banking services.

It would be ironic for, and undermining to, the bank's next-generation investments and brand modernization efforts to neglect weaving client data privacy protection into every transformational step along the way. Simply put, *banks cannot readily move towards the new model without simultaneously addressing the electronic-risk, or e-risk, implications—particularly client data privacy and protection.*

Regulatory compliance, outside of current industry practices, will become routine in business on varying levels and where the retail bank operates in more than one country the application may differ based on country and government privacy regulations.

The Basel Committee on Banking Supervision (BCBS) consultative document 'Principles for Effective Risk Data Aggregation and Risk Reporting' provides the regulatory drivers for

change within the industry, the implications for banks. The BCBS proposed 14 principles to ensure that data and associated processes used by the risk function are "fit for purpose" at global level systemically.

The plethora of data loss incidents reported globally has meant that there are new operational capabilities available for banks looking to be more progressive in the area of client data privacy and protection.

As with the execution of any technology category used to provide a business benefit, the technology industry has delivered a mixture of traditional and new features and functions over the past decade that address the nuances and evolution of individual businesses and implementation preferences, such as Virtualization (VMware), Mobile Pay (Apple), Adaptive Redaction (Clearswift), Bitcoin (technology, not crypto-currency). This has enabled retail banks to move beyond traditional security constraints, to prioritize client data protection and use security automation to create new sources of business value for clients.

By abstracting out the client data and wrapping privacy around it, it is possible for retail banking operational personnel and technology leaders to work closer together and create a foundation of automated client data management. For privacy to be effective there needs to be an understanding of the context of the data within operational, regulatory, collaboration, new product applicability, etc. of the retail bank. This allows the organization to mitigate the risk of cyber-targeting and the theft of the information or exposing client data unintentionally.

C. BACKGROUND

a) Digitalization risk elements leading to client privacy exposure

With the compelling new model of retail banking that's embedded with client engagement and retention firmly in mind, there is a need to consider the specific elements of client data privacy risks that must be addressed, beginning with a look at the types of digital information banks routinely collect.

b) Personal information:

When one visits or uses online banking services, banks may collect personal information from or about individuals such as their name, email address, mailing address, telephone number(s), account numbers, limited location information (zip/post code to help find a nearby ATM), user name and password. Banks will also collect payment card information, social/national ID, security numbers, driver's license numbers; which is reasonably required for ordinary business purposes.

c) Information usage and impact data:

In addition to the personal information, banks may collect certain information about a client or prospect's (channel demand generation) use of online services. For example, the bank may capture the IP address of the device used to connect to the online service, the type of operating system and browser used, and information about the site, the parts of the bank's online service that were accessed, and subsequent sites visited.

The bank or their third-party partners may also use cookies, web beacons or other technologies to collect and store other information about sites visited, or use of online services. In addition, banks may later associate the usage and other information collected online with the personal information from the individual.

d) Omni-channel and mobile banking data:

For convenience, banks offer the ability to access products and services through mobile applications and mobile-optimized websites ('Mobile Banking'). When using mobile banking services, the bank may collect information such as unique device identifiers for one's mobile device, the screen resolution and other device settings, information about location, and analytical information about how that consumer may traditionally use their mobile device. Consent is typically requested via location service permissions before collecting certain information (such as precise geo-location information).

e) Additional sources of client information collected:

Banks may also collect information about consumers from additional online and offline sources including from co-branded partner sites or commercially available third-party sources, such as credit reporting agencies. Banks may combine this information with the further sources of information they have collected about a client as defined under their Online Privacy Policy.

The combination of all the above types of personal and banking information provides the bank with a level of rich CRM data that exists today, but is often siloed across the differing operational units. The challenge to retail banks will be to assimilate this data for both client experience and also traction of client longevity. However, the antithesis of collecting these rich levels of data exposes the organization, employees and 3rd parties to intentional and unintentional data disclosure, breach and theft for which mitigation is required.

Firstly, there is the external movement and disclosure of client data. Banks may share the information collected from and about individuals with their affiliates and other third parties.

A data breach with a 3rd party data processor or an affiliate will have a negative brand reputation impact. Joined-up process and thinking is required to protect the information that has been shared.

Secondly, there is the internal movement and disclosure of client data. Banks share / disclose / manipulate varying levels of client data internally as part of their standard business operations and for product/service development. This is essential to track, alert and measure effectiveness for specific types of client segments.

A complete understanding of the use of the information is needed. As internal processes increasingly rely on external collaboration, it is not unusual for internal departments to outsource parts of projects which may not be realized by those further up the bank. What was thought to be an internal project suddenly turns into an external one – with all the additional risks that are associated with it.

f) Regulatory implications:

The global focus on Governance, Regulations and Compliance (GRC) has accelerated across regional boundaries as the opportunity to expand commercial operations via technologies such as web 2.0, and mobile applications amongst others are realized. In the case of client data, Banks should adopt a 'Client First' approach to GRC as the exponential growth of client related data develops and the diversity of operations span traditional banking silos.

As a heavily regulated industry, there are multiple regulations that must be adhered to. Some of the primary data protection regulations that Banks have to comply with by law are outlined in Table 1.

Table 6 Some of primary data protection regulations, governing customer data

Regulation	Data Included	Effective From	Region Focus
General Data Protection Regulation (GDPR)	PII, SPI	25-May- 2018	EU member states
PCI- DSS	Payment Card Information	Since 2000s v3.2.1 from 1-Jan-19	World Wide
Electronic Communications Privacy Act	PII, PCI	Act passed in 1986. Revised in 2016	US
Data Protection Bill 2018	SPD, PII	Draft Stage	India
IT ACT 2008	SPD, PI, PII	Passed on 22-Dec-2008	India

This project is majorly based on EU's GDPR and India's draft data protection bill 2018 released by government of India for the opinions from various interested parties. This bill is more or less similar to EU's GDPR.

D. SCOPE OF RESEARCH

The scope of this research is limited to following:

a) Awareness of data protection amongst the people

b) Awareness regarding security of the personal data utilized in today's digital era

c) Awareness of the regulations and acts in place

d) Willingness to share the personal data

e) Trusted organizations who will protect and ensure the security of the personal data

Major part of the research is focused on understanding the people's awareness and knowledge regarding the personal data and security of the personal data. Whom do they trust for securing the data as per their understanding of the sensitivity of the information? Because it is based on the customer data and their view point, it does not take into account, the organization's challenges and viewpoints as in how they will be dealing and working towards ensuring the protection of personal data. Current study is focused on requirement analysis for protecting the personal data of the customers.

E. PROBLEM STATEMENT

The problem statement this research tries to identify is at three levels:

a) Maturity of the customers in identifying and understating the personal data

b) Reasons why the personal data needs protection

c) Which organization provides them the sense of trust for protecting their personal data

As all the factors mentioned above needs thorough and clear understanding of the regulations and compliance requirements, it is important to analyze the customer's maturity and understanding as well towards the data that they are going to share

F. RESEARCH OBJECTIVES:

To determine the importance of data protection and to understand the key requirements of data protection for banking industry.

a) To analyze the awareness amongst general public regarding the security of personal data which is shared for various purposes during the course of obtaining goods/services.

b) To assess which organization plays a major role in ensuring the security of customer's personal data basis the trust factor of the public.

G. LITERATURE REVIEW

Below are the results and/or evidences that client data protection gaps still exist and needs a thorough understanding of the importance of personal data protection.

A recent survey on data protection and privacy, highlighted that client data protection is still a major concern for EU Citizens. [2]

a) When it comes to control over personal data:

- >80% feel that they do not have complete control over their personal data they provide online.
- 66% are concerned about not having complete control over their personal data.

The respondents were most concerned about the recording of their activities via payment cards and via mobile phones, both of which have a direct impact on the next generation bank. Building trust in a digital platform with protection around/ personal (client) data will provide the competitive advantage.

b) In a separate question around the disclosure of personal data:

- >70% say that providing personal information is an increasing part of modern life and accept that there is no other alternative.
- >50% disagree that providing personal information is not a big issue for them.

The majority of people are uncomfortable with Internet companies using information about their online activity to tailor advertisements, and >66% think it is important to be able to transfer personal information from an old service provider to a new one. We live in an era where competitors are only a click away and new legislation to help individuals move accounts, means that keeping and maintaining loyalty becomes critical to growth.

c) When it comes to the management of personal data by third parties:

- 70% say that their explicit approval should be required in all cases before their data is collected and processed.
- 70% are concerned about their information being used for a different purpose from the one it was collected for.

Almost all respondents say they would want to be informed should their data be lost or stolen, with 66% believing the public authority or private company handling the data should be the ones to inform them if it has been lost or stolen. It is unfortunate that data breaches are no longer 'if' but 'when', however understanding the viewpoint of the client means the organization can respond accordingly.

For many organizations there is often a 'click-through' privacy policy, however only 20% of people fully read privacy statements. Most do not read them because they find them too long to read, unclear, or too difficult to understand.

d) An expert's perspective and call to 'do more' in banking

Data security experts and authorities agree that a more concerted and proactive approach is required for securing client data as a critical priority beyond the standard compliance checkbox-approach. At one of the Cyber security and Privacy conference in Brussels (April 29, 2015) [4], keynote speaker and European Data Protection Supervisor (EDPS) Giovanni Buttarelli commented on his 5-year strategy. While acknowledging the importance of cyber security for the sustainability of our digitally supported economy and society, Buttarelli stated that the privacy challenges cyber security entails are not to be minimized, and that its objective is not to be misused to justify measures weakening the protection of data protection rights. Buttarelli also addressed the tension between cyber security and data protection, stating that "*The rights to privacy and data protection have long been perceived as conflicting with the objective of cyber security. I believe this is a misperception.*" Instead, a high level of cyber security should ensure that such measures help improve the security of all information processed, including personal data. Cyber security can play a fundamental role for retail banks in contributing to ensuring the protection of individual's rights to privacy and data protection in online and Omni-channel environments [4]. He continued by warning that "*cyber security must not become an excuse for disproportionate processing of personal data*".

To find the right balance, data protection principles such as necessity and proportionality can be applied to help guide **privacy-by-design and privacy-by-default** for cyber security solutions.

Buttarelli also addressed the ongoing efforts to reform the EU data protection framework, noting that a key plank of the reform is data security. Under the current legal framework the three elements to determine the selection of adequate technical and organization measures are:

a) The risk of the processing **b)** The state of the art **c)** The cost of the measures

He noted that the third element must not be overstated, given the importance of appropriate data security. "*A proper cost benefit analysis would demonstrate that data security, benefits not only individuals whose personal information is processed, but also the professional reputation of the organization processing the data.*"

Buttarelli explicitly mentioned various sectors as expected to needing to deal with cyber security more intensively and these were the banking and health sector, and IT initiatives such

as the Internet of Things (IoT), Bring Your Own Devices (BYOD) and Wearables, as these attacks would have a significant impact on privacy and the protection of personal data.

H. METHOD OF STUDY

This is an exploratory research where the idea is to establish a connection between the people's understanding of the personal data protection and the regulations laid down for ensuring the protection of personal data.

This research was conducted using both primary and secondary data. For primary data, a survey questionnaire was created with **10 questions** and was circulated using the internet to the social circles. Professional as well as the general social media sites were used for obtaining the responses. The survey was kept active for **three weeks and more than 120 respondents** submitted their inputs and then the research was closed for further analysis.

The secondary data collection was based on the existing study and/or analysis done in order to understand the data protection requirements laid down by the various regulations.

I. DATA ANALYSIS AND RESULTS

Total 125 samples were taken and below are the results from the analysis done:

1. Following chart shows the age wise breakup of the respondents to overall survey and it was noted that the responses were received from all the age groups.
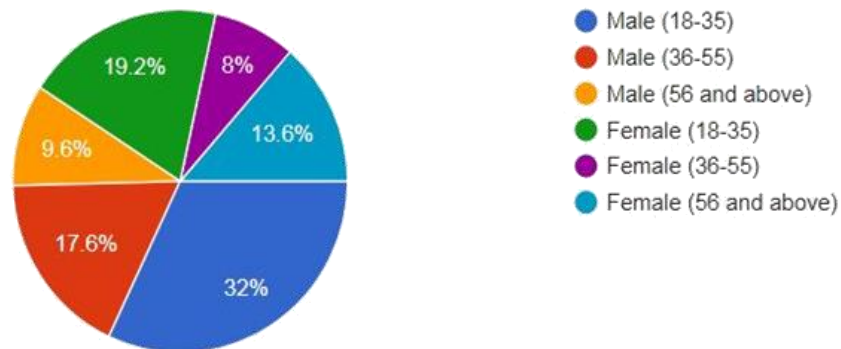
Figure 8 Age distribution of the respondents

2. The population was classified under three industries to simplify the analysis. I.e. IT & IT related, BFSI and Non- IT & Non- Finance. Below is the overall distribution of the industry wise population:
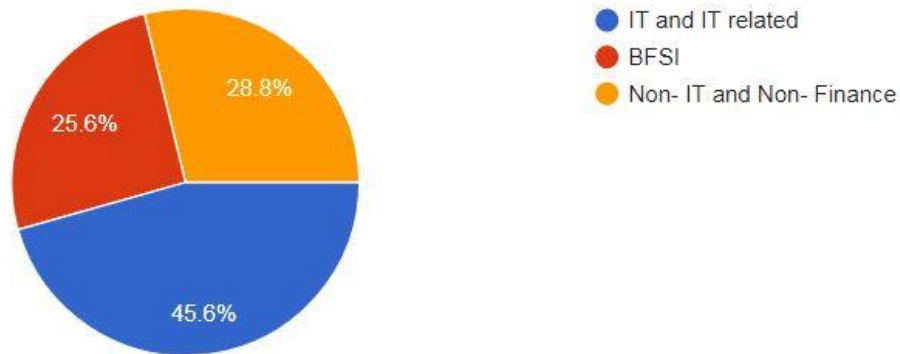
Figure 9 Industry wise distribution of the overall population

3. Upon analyzing the overall responses, it was observed that >65% of the people don't like their data to be shared at all.

   Question: Will you be comfortable if your personal data is:
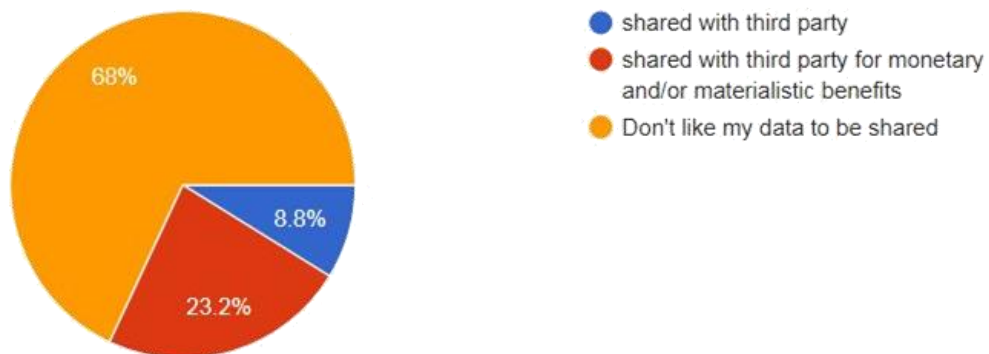
Figure 10 Comfort level to share personal data with third party

Whereas it was also noted that around 23% of the people didn't mind sharing their personal information with the third party for some monetary and/or materialistic benefits. However the response received from majority was a positive sign of being aware about the sensitivity of personal information.

4. We also asked the users whether they read and understand the privacy policies, T&C while opting for services (online/ offline). The response collected was as follows which showed that majority of them (40%) never read the policies/ conditions put and which becomes an area of concern. Also, few of the responses (around 27%) said they read but don't understand them and hence equally results into the unawareness of the legal and binding conditions put up by the service provider.
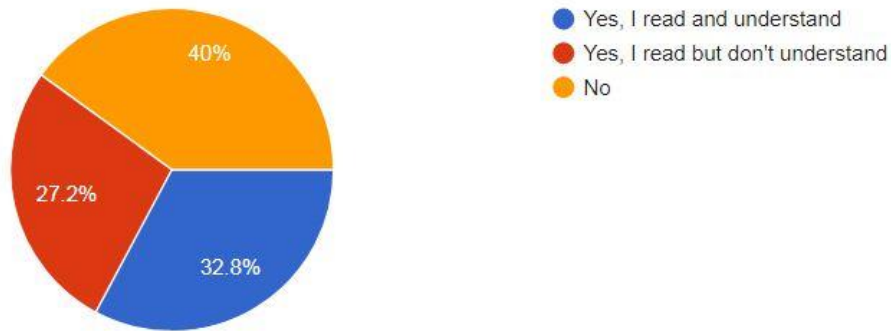
Figure 11 Awareness about the privacy policies, T&C while opting for various services

5. It was observed that when products/services are provided for free, people are willing to share their personal information till some extent.
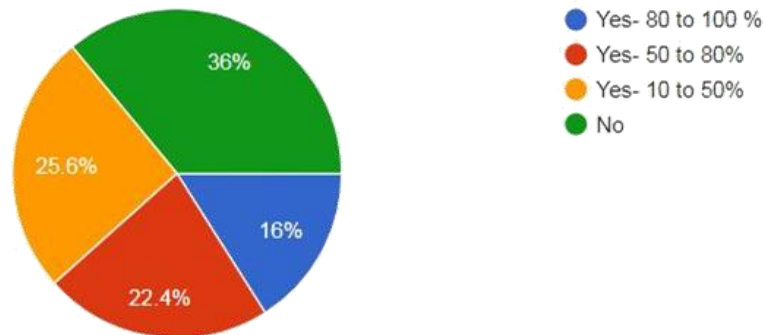
Figure 12 Percentage of personal information provided for free products and/or services

The options were divided under following categories and it was noted that around 22% of the population provided around 50 to 80% of their personal information for free things. 36% of population responded with "No" as their choice of providing personal information for free services/products.

6. We asked for the reasons why people provide the false information in many cases and the responses received were very positive as it showed the importance of the security and privacy of personal information of an individual. We noted that security concerns (>60%) and privacy (>52%) were most preferred options by majority of them.
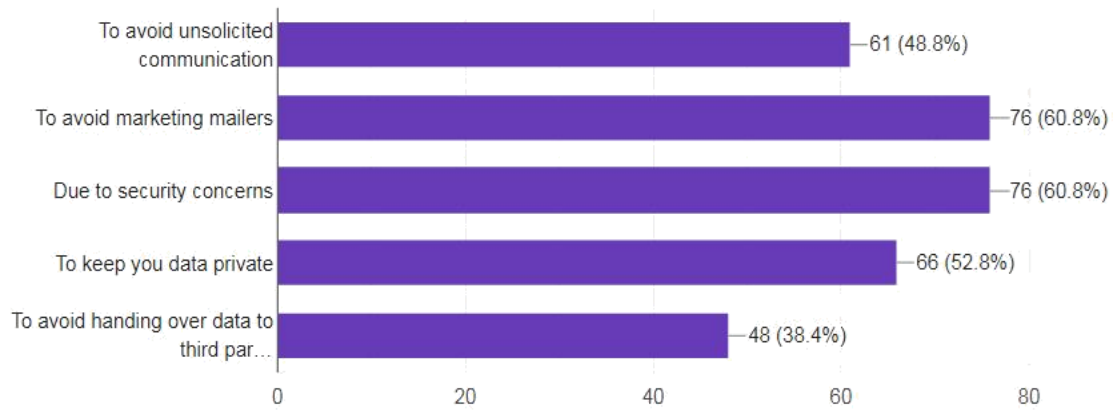
Figure 13 Reasons why people choose to provide false information

7. We asked the users about the information that they do not wish to share and if shared they want it to be protected.
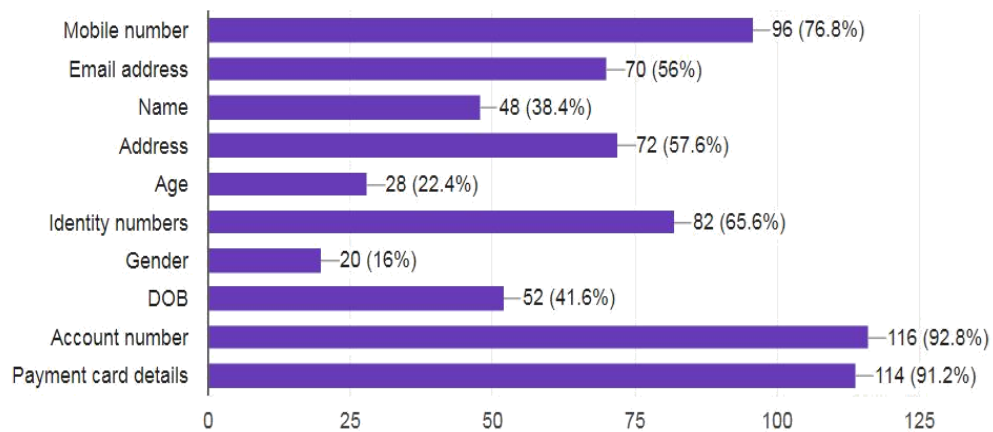
Figure 14 Type of information people are not willing to share and if shared needs protection

The response received included Account number (92%), payment card details (91%), mobile number (76.8%) and identity numbers (66%) as the top choices followed by email, address, DOB, name etc. This showed the importance and awareness about which information is sensitive/ critical and needs protection from the end user perspective.

8. The survey included a question to seek public opinion regarding the organization that they think will definitely protect their personal information. We asked them to rate the 5 types of organization on a scale of 1 to 10 for their trust level on them (1- Highest and 10- Lowest). This was one of the key question as we wanted test which type of organization gains the customer preference when it comes to securing the personal information. The results shows that Banks and Government departments are the most trusted organization

who will secure the personal data of the customers. Out of these two; Banks were the first choice for around >33% of the population.

Banks
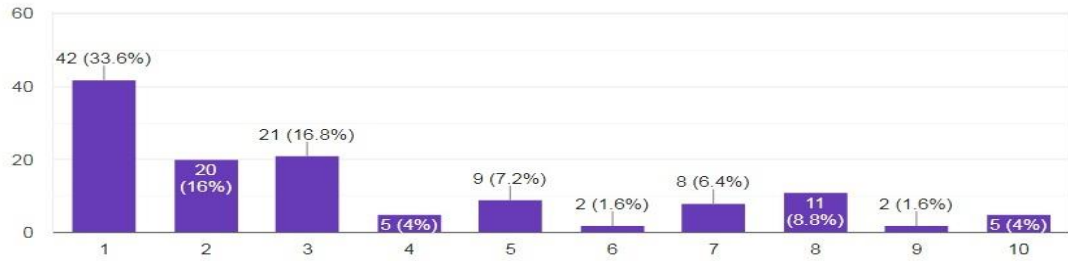
Figure 15 Banks

Government Departments
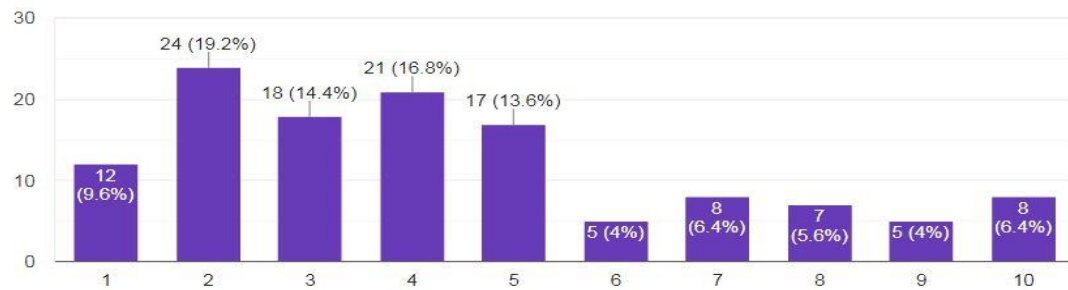
Figure 16 Government Departments

E-Commerce Companies (Flipkart, Amazon, Ali Express, Book My Show etc.)
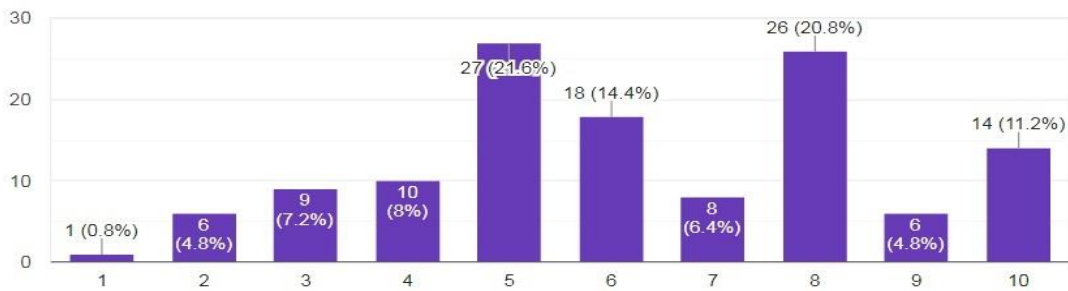
Figure 17 E-commerce Websites

Social Media Website (Facebook, WhatsApp, Twitter, Instagram etc.)
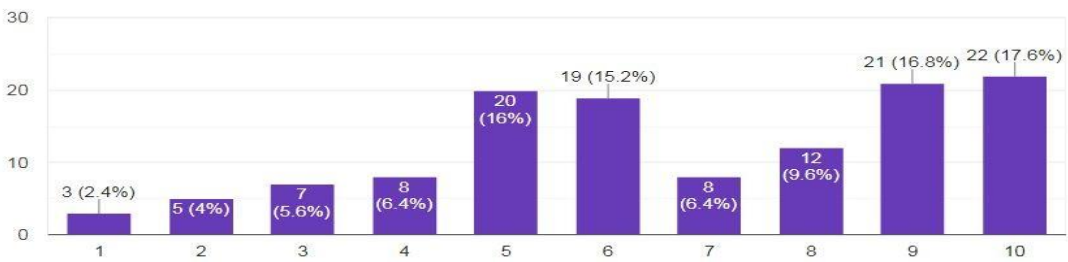
Figure 18 Social Media Sites

Online Media Streaming Websites (Netflix, Prime, Hotstar etc.)
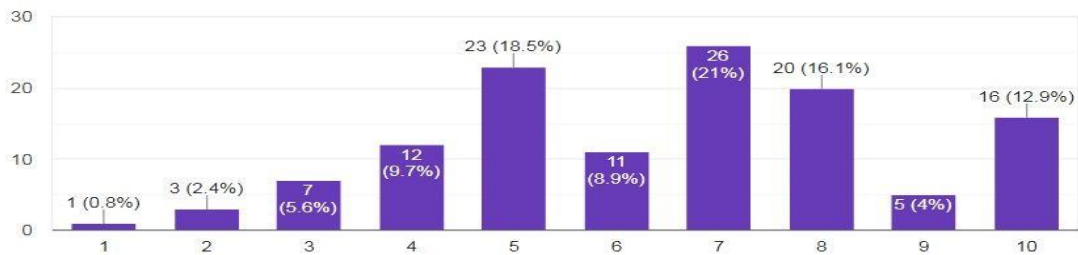
Figure 19 Online Media Streaming Websites

9. We noted that around 60% people are aware about EU's GDPR which was recently made effective in the month of May 2018. On the other side only 52% are aware about India's Draft Data Protection Bill 2018 which is soon going to be passed in India.
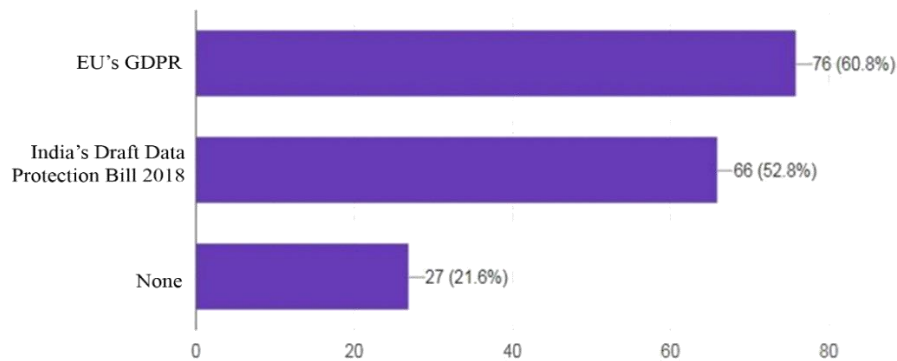
Figure 20 People's awareness about regulations in place

10. Respondents also showed interest in understanding more about the data protection and also submitted various reasons why these data protection regulations should be made effective and adhered to. **From the overall exercise it was noted that the people are aware about the sensitivity of the information the organization's generally collect and why it needs protection.**

J. CONCLUSION

Banking is going through a period of unprecedented change. For banks to move to digitalization in an agile manner they need to be assured that their client data is protected at all times. By implementing a Critical Information Protection Framework which protects the client data first, no matter where it exists, can give the ability to roll out new services, more quickly. This is not just about technology, it is also about people and processes.

Transformation needs to happen at all levels, and while it is happening, client data must be protected at all times. The importance of client data at the 'micro' level, or the individual, is

sometimes lost when talking about millions of clients. However the effects and distress it causes to individuals are all too easy to see. The good news is that all employees will also be clients in some shape or form – so they need to protect the information they are responsible for in the same way as they would expect others to protect their own information.

Growth in all businesses, but especially in banking, is predicated on trust. Without trust, clients will take their business elsewhere; immediately. Putting client data and client privacy as the foundation for the digitization of banking and protecting these valuable client assets with a critical information protection framework will not only build client trust but also will create the foundation for growth.

K. REFERENCES

[1] EU's General Data Protection Regulation

[2] India's draft personal data protection bill 2018

[3] Retail Banking Client Data Privacy & Protection repot by ClearSwift, October 2015

[4] https://secure.edps.europa.eu/EDPSWEB/edps/site/mySite/Strategy2015- the full keynote speech of the EDPS

[5] Facebook Cambridge analytica case - https://www.cnbc.com/2018/04/10/facebook-cambridge-analytica-a-timeline-of-the-data-hijacking-scandal.html

[6] Risk, data and the supervisor: The clock is ticking, Deloitte & EMEA Centre for Regulatory Strategy

[7] Guidelines on the protection of personal data in IT governance and IT management of EU institutions, 27 March 2018.

[8] Data Flow Mapping and the EU GDPR by Adrian Ross LLB (Hons) IT Governance Ltd 29 September 2016

[9] "The Everyday Bank: A New Vision for the Digital Age," Accenture, 2015.

[10] Data Protection Guidelines for Banks by Malta Bankers Association, May 2018

[11]Data protection policies in EU- https://ec.europa.eu/info/law/law-topic/data-protection_en

[12] Guidance Notes- India – Data Protection in the Financial Sector by Huzefa Tavawalla and Kartik Maheshwari

[13] Data protection laws across the world- https://www.dlapiperdataprotection.com/

[14] WP29, Guidelines on data protection impact assessment (DPIA) and determining whether processing is likely to result in "high risk" for the purposes of Regulation 2016/679, WP 248, 04 April 2017

[15] Personal Data Protection Code of Practice for The Banking And Financial Sector, Jan 2017

[16] State of Data Security and Privacy in the Indian Banking Industry DSCI-KPMG Survey 2010

Perception of Management Students w.r.t Industry Requirements & Skill Development

C G Prakash

Associate Dean

VESIM

Mumbai University , Mumbai

Kavita Laghate

Director

JBIMS

Mumbai University, Mumbai

Abstract

There is a generally prevalent opinion that industry skills needs are distinct from what is taught in management colleges . " You are hired for your domain skills but fired for lack of soft skills " . Industry expects the management graduates to have good communication   skills , problem solving ability , positive attitude , ability to work in a team , be adaptable and result oriented . The management education at colleges however is more focused on imparting theoretical knowledge and there is minimal attention given to life skills which are sought by the industry. One of the prime reasons is that the most of the   faculty in the management colleges are   academics   and do not have an extensive industry background .They are usually not aware of the skill demands of the industry and the methods of imparting those skills . The students seem to be more conscious of the industry needs and the areas   for   skill development.

This paper   describes the role of ' doing ' and ' being ' component   of   management education in competency and professional development and concludes with implications for MBA education that balances student perception and market place demands.

 Key Words: Management, Communication skills, Soft skills, Training, Employability

Introduction

Talent is   the basis for competition and need to be nurtured in management institutes. Supply chain refers to a mindset to be developed by management institutes which would cater to the needs of the industry by providing adequate   training and development opportunities for the students in the college. .

It is widely believed that what is taught in management colleges is not relevant for industry and that what is relevant for industry   is not taught in management colleges.

There have been a number of surveys conducted to this effect to gauge the needs of the industry and ways to address them from an employers ,employees and faculty perspective . It would be of interest to know about the views of the management students w.r.t industry needs and how they can be fulfilled and hence the study. .

A primary research was conducted to gauge the perception of management student w,r,t industry requirements and how the requirements can be addressed within the purview of management education .

Theoretical Framework

A management institution aspires to enhance the **Awareness –Action –Attitude** aspects of a management student ..

The Awareness aspect is addressed thru the ' Knowing' component which involves the Mental quotient (IQ) of the individual and the college is supposed to impart facts, theories, strategic and analytical skills to develop the dimension of domain and technological knowledge of the student.

The Action aspect is addressed thru the ' Doing ' component involves the Physical quotient (PQ) of the individual and the college is supposed to impart the project implementation and communication skills to develop the dimension of presentation techniques and capabilities of the individual .

The Attitude aspect is addressed thru the ' Being ' component involves the Emotional Quotient (EQ) of the individual and the college is supposed to impart the right values ,attitudes and belief system which help develop the dimension of professional identity of the individual.

Addresses		Involves		Imparts		Develops
Component ⬇		Quotient ⬇		Skills ⬇		Dimension ⬇
Knowing	➡	**Mental (IQ)**	➡	**Facts ,Theories , Strategy , Analytical ability**	➡	**Domain & Technological Knowledge**
Component ⬇		Quotient ⬇		Skills ⬇		Dimension ⬇
Doing	➡	**Physical (PQ)**	➡	**Project Execution Communication**	➡	**Presentation Capabilities & Techniques**
Component ⬇		Quotient ⬇		Skills ⬇		Dimension ⬇
Being	➡	**Emotional (EQ)**	➡	**Values , Attitudes , Belief Systems**	➡	**Professional Identity**

Literature Review

In the article " Responding to Industry Needs: Reorienting Management Education " by T V Rao, Siddhartha Saxena, Vijaya Sherry Chand published in Vikalpa •volume 39 • No 4 • October - December 2014 it is mentioned " In order to situate employer feedback within the framework of institutional responses—both curricular and pedagogical, we adopt the Knowing –Doing –Being framework developed by Datar et al. (2010). In their view, business schools are in the business of developing leaders and entrepreneurs, and in order to be effective in this mission, need to do two things: "reassess the facts, frameworks, and theories that they teach (the "knowing" component), while at the same time rebalancing their curricula so that more attention is paid to developing the skills, capabilities, and techniques that lie at the heart of the practice of management (the "doing" component) and the values, attitudes, and beliefs that form managers' worldviews and professional identities (the "being" component)" (Datar et al., 2010, p.7) .

"Recruits from IIMs become Heads of their functions/ SBUs within five to seven years. However, the graduates from other B-Schools are not able to reach that height, even after 10 years. The reason is quite obvious: the IIM graduates possess very high level of analytical

skills, great confidence levels, and are prepared to look at everything from a different perspective"

"The key differences are in the areas of exposure and the confidence the employees bring to the job. The ones from the Tier-2 schools do not seem to be that confident and have very poor exposure to the business world before they join us. It must be, however, added that the individual's personality does make a difference "

Bhandarker (2008), while commenting on these changes, notes that the Indian businesses of tomorrow will need managers and leaders who can thrive amidst the challenges of living and working in a global world, and who can prepare organizations to cope with ambiguities, uncertainties, and complexities. She finds that the Indian business education paradigm, by and large, has remained the same for many decades, focusing more on developing intellectual power rather than building leaders .Her prescription for developing MBAs as leaders is a focus on four clusters: the intra-personal, which includes self-awareness, emotional self-awareness, intentionality, resilience, optimism and empathy; the "influencing others" cluster, which includes emotional expression, interpersonal connections, constructive discontent, and trust; the "managing complexity cluster" which consists of intuition and creativity; and "managing diversity", a tolerance for ambiguity and flexibility. These four clusters overlap to a large extent with the eight focus areas outlined by Datar et al. (2010).

As per A Bhandarker (2008) "It is the 'being' dimension that seems to call for attention while making any attempt to rebalance the curriculum. Leadership means taking responsibility for implementing change, developing a certain depth as a person, willing to shed any stereotypes that one may have carried into the job, understanding the balance between a career and commitment to an organization, developing a commitment to practice, understanding one's own limitations, and working out one's expectations in a reasonable manner. In addition, developing an integrated perspective is an important aspect of developing the 'being' dimension. This is where the challenge for BSchools lies. These qualities are not easy to develop in a classroom set-up, and call for more experiential methods of learning. B-Schools, by and large, are not as competent in these methodologies as they are in methods that develop analytical, instruction-based knowledge, and skills."

The paper on "Rethinking the MBA: business education at a crossroads " by S Datar ,David A Garvin and Patrick G Cullen seeks to examine major challenges facing MBA programs and to argue that they will have to reconsider their value proposition. It aims to explore effective

curricular and programmatic responses as opportunities for MBA programs to innovate. The paper also aims to call for collective action across the business school field to effectively address these challenges. The paper draws on original sources of qualitative and quantitative data to present a detailed picture of the current state of MBA education. It identifies eight unmet needs based on interviews with deans and executives, and proposes curricula innovations that address these needs .It mentions that " Business schools need to reassess the facts, frameworks, and theories that they teach, while also rebalancing their curricula to focus more on developing skills, capabilities, and techniques as well as cultivating values, attitudes, and beliefs ".

As per Prof Arya Kumar, Director, LBS institute of management, Delhi "Effective group learning focuses on student as a center and focal point. The students share an overall common experience along with their own experiences as a resource with each other. There is active involvement in discussion and activities. There is an internalization of learning because of self-experience. Group as a whole and each participating student mutually share their insights and resources in learning from each other"

In the article "How Relevant Is the MBA? Assessing the Alignment of Required Curricula and Required Managerial Competencies Article (PDF Available) *in* <u>Academy of Management Learning and Education,</u> June 2009 Rubin, R, Dierdorff, E. states that " Masters of business administration (MBA) programs are being met with escalating criticism from academics, students, and various organizational stakeholders. Central to these criticisms is the contention that the MBA is wholly out-of-touch with the "real world" and is irrelevant to the needs of practicing managers. Examining this contention, we investigated the relevancy of MBA curricula in relation to managerial competency requirements. Relying on an empirically derived competency model from 8,633 incumbent managers across 52 managerial occupations, our results showed that behavioral competencies indicated by managers to be most critical are the very competencies least represented in required MBA curricula " .

In an article in Harvard Business Review (2005 issue) "How Business Schools lost their way "Warren Bennis and James O 'Toole mentions "Business Schools are on the wrong track. Today, however, MBA programs face intense criticism for failing to impart useful skills, failing to prepare leaders, failing to instil norms of ethical behavior—and even failing to lead graduates to good corporate jobs . We cannot imagine a professor of surgery who has never seen a patient,

or a piano teacher who doesn't play the instrument, and yet today's business schools are packed with intelligent, highly skilled faculty with little or no managerial experience.

As a result, they can't identify the most important problems facing executives and don't know how to analyze the indirect and long-term implications of complex business decisions. In this way, they short change their students and, ultimately, society. Things won't improve until professors see that they have as much responsibility for educating professionals to make practical decisions as they do for advancing the state of scientific knowledge "

Research   Method

A primary research was carried out through a survey.

The questionnaire was newly designed, developed , reviewed and administered to 200 + management students across management institutes located in Mumbai offering the MMS course of Mumbai university.

Results

Table 1

Legend:
- Domain Skills
- Communication Skills
- Soft Skills (Attitudinal)
- Technological skills
- Analytical skills
- All of them
- All of the above. Technical and domain mostly
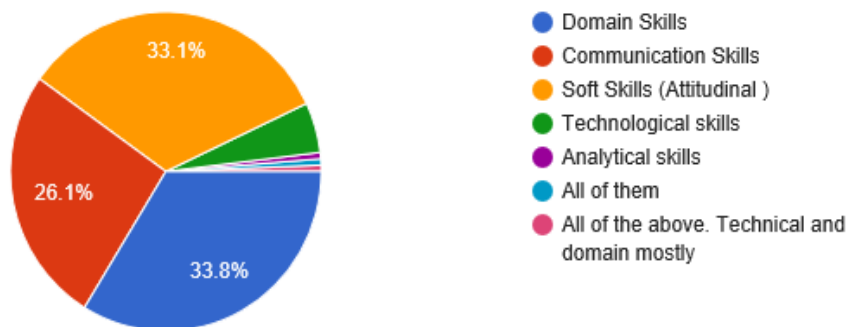
97 out of 162 students (60 %)   believe communication n and attitudinal skills   are the most important skill needed for employability

Table 2
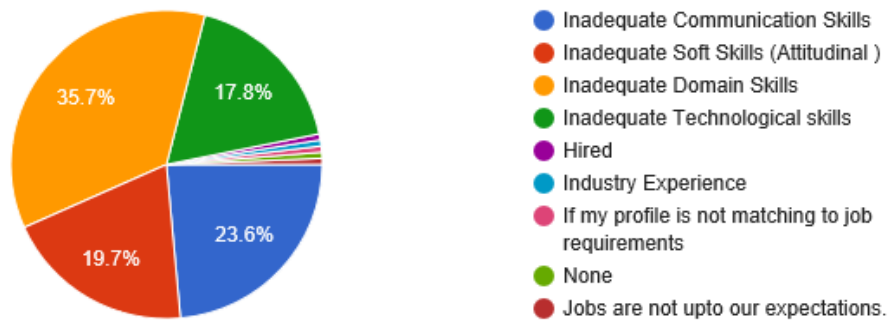
70 out of 162 students (44 %) believe that Communication on and Attitudinal skills are the biggest hurdle in getting a job post completion of management course while 36 % believe Domain skills are the hurdle and 17 % believe Technological skills are the biggest hurdle

Table 3

The students feel that they need to be trained in n conflict management, time management communication and interpersonal skills

Table 4
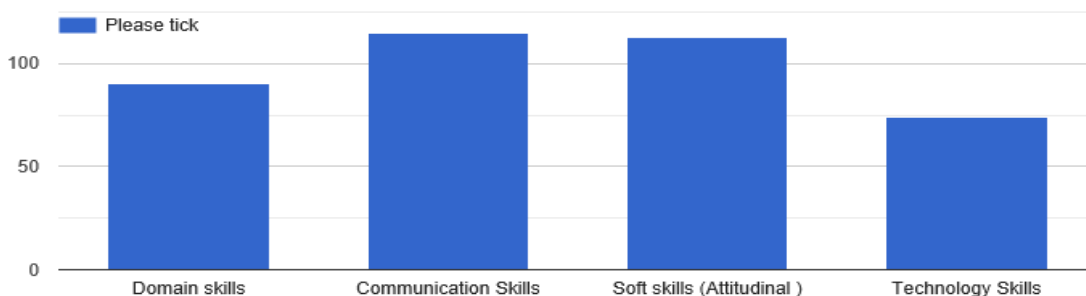
Of the industry skills most important to have Communication and Attitude top the list followed by Domain and Technological skills

Table 5
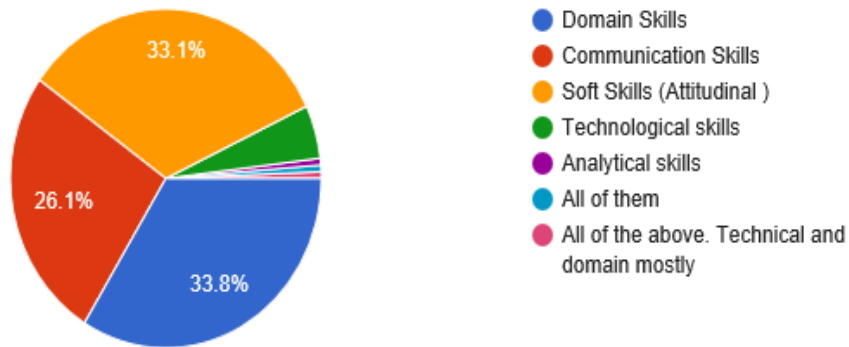
60 % of students   believe the most important skills needed for employability   are Communication and Attitude

Table 6
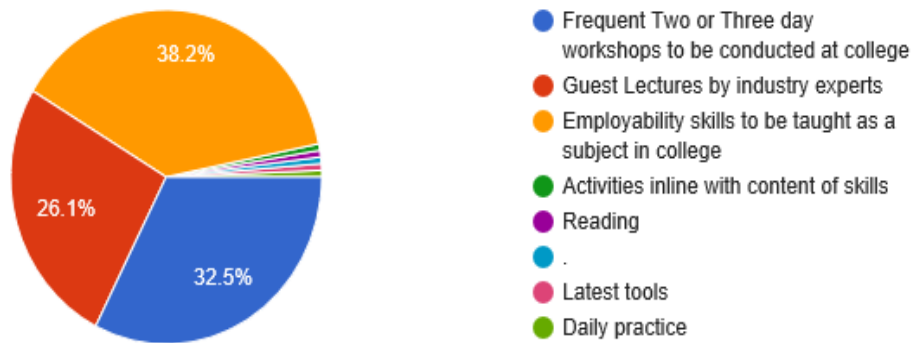
38 % of students feel employability should be taught as a subject tin colleges while 60 % of students feel   guest lectures and workshops   need to be conducted to improve the communication and soft skills quotient

Table 7
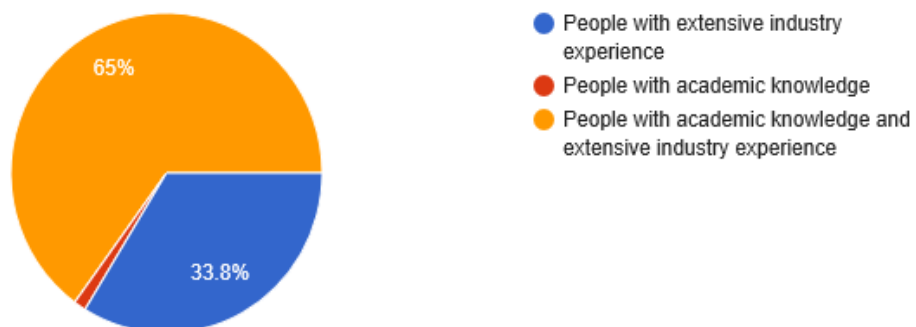
65 % of students feel people with academic and industry experience should conduct soft skills training at colleges while 34 % of students feel people with extensive industry experience should conduct the training.

Table 8
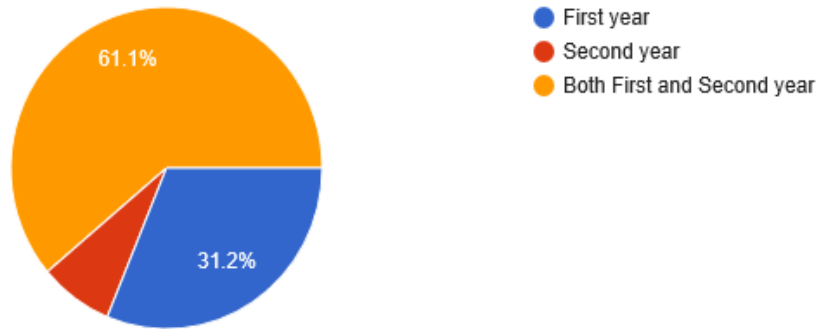
61 % of students feel that soft skills training should be imparted in both the years at colleges while 31 % feel that the training should be conducted in the first year.

Table 9
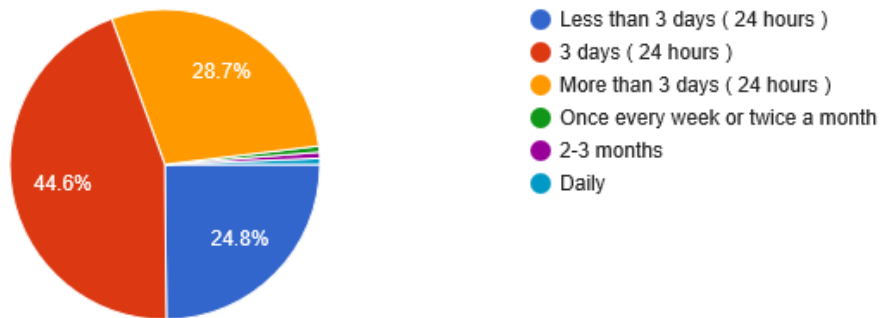
45 % of students feel that the duration of communication and soft skills program should be for 3 days i.e. 24 hours

Table 10
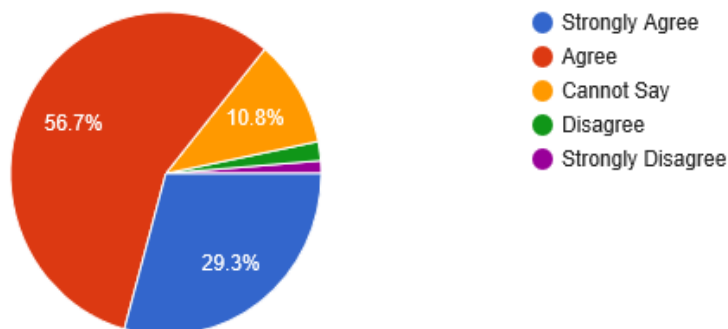
86 % of students feel that their confidence level in soft skills and communication will improve thru focused training by industry people.

Data Analysis Perception of Management Students w.r.t Industry Requirements & Skill Development

Chi –Square Test

Test 1

Ho : Variation in Confidence level of Students is independent of skills they acquire
Ha : Variation in Confidence levels of Students is dependent on skills they acquire

				Confidence Level		
	Skills	Very Low	Low	Average	High	Very High
	Domain	1	24	113	24	4
	Technology	2	32	93	35	4
	Communication	2	16	76	59	13
	Attitude	0	14	88	56	8

O	E	O-E	(O-E) ^2	(O-E) ^2 / E
1	1.25	0.25	0.0625	0.05
24	21.5	-2.5	6.25	0.29
113	92.5	-20.5	420.25	4.54
24	43.5	19.5	380.25	8.74
4	7.25	3.25	10.5625	1.46
2	1.25	-0.75	0.5625	0.45
32	21.5	-10.5	110.25	5.13
93	92.5	-0.5	0.25	0.00
35	43.5	8.5	72.25	1.66
4	7.25	3.25	10.5625	1.46
2	1.25	-0.75	0.5625	0.45
16	21.5	5.5	30.25	1.41
76	92.5	16.5	272.25	2.94
59	43.5	-15.5	240.25	5.52
13	7.25	-5.75	33.0625	4.56
0	1.25	1.25	1.5625	1.25
14	21.5	7.5	56.25	2.62
88	92.5	4.5	20.25	0.22
56	43.5	-12.5	156.25	3.59
8	7.25	-0.75	0.5625	0.08
				46.42

Critical Value of λ^2 46.42
Degree of Freedom = (4 -1) x (5-1) =12
Level of Significance - 0.05
Tabulated Value of λ^2 21.03

Since the calculated value or critical value is greater than the tabulated value we reject the hypothesis and conclude that the variation in confidence level of students is dependent on skills

Test 2

Ho : Current level of confidence in area of communication skills is independent of domain

Ha : Current level of confidence in area of communication skill is dependent on main

Level of Confidence in Communications Area	Domain				Total
	Finance	Marketing	HR	Operations	
Low	52	19	9	11	91
High	33	16	10	9	68
	85	35	19	20	159

Observed	Expected	O-E	(O-E) ^ 2	(O-E) ^ 2 / E
52	48.64	3.36	11.28	0.23
19	20.03	-1.03	1.06	0.05
9	10.87	-1.87	3.49	0.32
11	11.44	-0.44	0.1936	0.016
33	36.35	-3.36	11.28	0.31
16	14.96	1.03	1.06	0.07
10	8.12	1.87	3.49	0.42
9	8.55	0.44	0.1936	0.02
				1.436

Critical Value λ^2 1.436

Tabulated Value λ^2 7.89

with 3 d.f and alpha = 0.05

Since critical value is less than the tabulated value we do not reject hypothesis and conclude that current confidence level in area of communication skills is independent of domain selected by them

Test 3

Ho :   Medium of schooling is independent of choice of communication as biggest hurdle for employment

Ha :   Medium of schooling is dependent of choice of communication as biggest hurdle for employment

	Communication		
Medium of Schooling	**Biggest Hurdle**	**Not Biggest Hurdle**	**Total**
English	34	113	147
Vernacular	5	10	15
	39	123	162

O	E	O-E	(O-E) ^2	(O-E) ^2 /E	(O-E) ^2 /E
34	35.39	-1.39	1.93	0.054	0.054
113	111.61	1.39	1.93	0.017	0.017
5	3.61	1.39	1.93	0.534	0.534
10	11.38	-1.3	1.93	0.169	0.169
					0.774

Critical value of

$\lambda^2 =$ 0.774

Tabulated value of

$\lambda^2 =$ 3.84

1 d f and 0.05

Since critical value is less than tabulated value we do not reject hypothesis and

can infer that   medium of schooling   is   independent of   selection of

communication by students as the biggest hurdle towards employment

Conclusion

88 % of students   who see communication as the hurdle   also believe that their confidence level can be increased thru focused training.

90 % of students who see Attitude building as the biggest challenge believe that   their confidence level can be increased thru focused training.

Of the 74 students   who see Communication skills and Attitude as the biggest hurdle in getting a job   64 students   (86 %) believe that their confidence level will improve upon focused training by industry people .

101 students (61 %) felt that the most important skill required for employability were Communication   and Attitude skills.

89 students (i.e. 88 %) believe this issue can be addressed by undergoing focused training from industry people.

It was found that the current level of confidence among   a majority of students is   low because they lack the necessary attitudinal (soft) skills and communication skills which they believe are the primary needs of the industry . The students felt that employability skills should be imparted   in colleges over a period of not less than 25 hour duration by people with extensive industry experience .

The effort should be towards   rebalancing MBA education towards the aspects of 'doing' and 'being'.

References

Management Education: Need for Innovation
https://www.thehighereducationreview.com/magazine/management-education-need-for-innovation-

Responding to Industry needs: Reorienting Management Education
http://www.vikalpa.com/pdf/articles/2014/vol-34-4-1-10.pdf

Rethinking the MBA: Business education at a crossroads
https://www.emeraldinsight.com/doi/abs/10.1108/02621711111132966

Shaping Business Leaders: What B-Schools Don't Do   By Asha Bhandarker
https://books.google.co.in/books?id=mvSHAwAAQBAJ&pg=PR4&lpg=PR4&dq=A++Bhandarker

Experiential Learning For MBAs: Are we closing the Business Competency GAP? David C. Nash, Temple University T.L. Hill, Temple University Marilyn Anthony, Temple University: Northeastern Association of Business, Economics and Technology Proceedings 2017: http://www.nabet.us/proceedings-archive/NABET-Proceedings-2017.pdf#page=277

Mintzberg, H. (2004). Managers not MBAs: A hard look at the soft practice of managing and management development. London: Prentice Hall, Google Scholar

Porter, L, McKibbin L (1988). Management education and development: Drift or thrust into the 21st century. New York: McGraw Hill, Google Scholar.

Bennis, WG, O'Toole J. (2005). How business schools lost their way. Harvard Business Review, 96-104. Google Scholar.

Pfeffer, J, Fong CT. (2002). The end of business schools? Less success than meets the eye. Academy of Management Learning and Education, 1, 78-95. Rubin, R, Dierdorff, E. (2009). How relevant is the MBA?

Rubin, R, Dierdorff, E. (2009). How relevant is the MBA? Assessing the alignment of required curricula and required managerial competencies Academy of Management Learning and Education, 2, 208-224.

Rental Business Models: An Insight into Emerging Consumption Behaviour for a New Service Concept

Dr. Vaishali Agarwal
Associate Professor
Indus Business Academy, Bangalore

Prof. Ramana Acharyulu
Indus Business Academy, Bangalore

A. Abstract

Indians in the past valued owning things over renting them as they thought owning provides them value for money while renting was considered to be waste of money. However, the last few years witnessed the evolution of Indian consumers, and a new concept termed "sharing economy" or "rental economy" has emerged. The size of global sharing economy has grown in just four years between 2012 and 2016, at a mind-boggling rate of 140 percent CAGR from $3.5 billion to 115 billion (Ernst and Young, 2015). This change could be attributed to a variety of factors: youth power, more jobs, economic freedom, migration from rural to urban to tier-I and metro-cities, technology infusion, abundance of choice and a shift in some of the core values such as commitment, exploring new things, living in the moment, etc.; it appears that the influence of technology based solutions appears to be driving this phenomenon.

The emergence of several convenience based technology driven service platforms such as cab aggregators like Uber and Ola, self-driving car rentals services such as Zoomcar, home sharing service providers like AirBnb changed the way consumers now seek, consume, pay for a good or service. This paper aims to examine the emergence of start-ups in renting business in India, factors contributing towards the growth of renting/sharing behaviour among consumers, renting as a viable alternative to traditional purchases and future opportunities and challenges for these business models and marketing theorization at large.

B. Keywords: Renting/sharing economy, EMI, RMI and consumer behaviour

C. Introduction

The evolution of a trend towards renting out, with Indian consumers moving away from 'own-it out' consumers to 'rent-it out' consumers could be attributed to several factors. The youth power, more jobs, economic freedom, migration from rural to urban to tier-I and metro-cities, technology infusion, abundance of choice and a shift in some of the core values such as commitment, exploring new things, living in the moment, wanting everything in short span of

time etc. The up and coming executive cadre have realised that though e-corporate work culture offers them limited opportunity to socialization, they didn't want to lose those opportunities to stay trendy and help on such occasions. Thus, subtly, the alternative of choosing a new dress/ new furniture/ new car, even for a short duration, by renting, suddenly found a rapid acceptance by the market. The growth of visual social media such as Instagram fuelled the fashion sense and consumers started to convey their fashion statements in every aspect of life! Rapid sharing of views and styles and reflection of consumer behavior in this genre - spread by social media, propelled solutions for convenience, comfort and luxury too. As this opportunity is tapped by service providers, renting a product, became a rational and economic option than owning. The entry and popularisation of several convenience based service platforms changed the way consumers in India now seek, consume and pay for a good or service.

D.   Theoretical Framework

Consumption Theories: The age old mode of consuming a product or service was limited to owning it. Snare (1972, pp. 200), has stated ownership as the special relationship between a person and an object called "owning," and the object is called "personal property" or a "possession". When an individual owns a product he/ she has complete right over it and can "regulate the incentives and behavior related to owned objects". The ownership clearly helps in determining the freedom and ownership of the owner and sets the boundaries between him and others. Ownership offers the right to the owner to regulate or deny access to others; to use, sell, and retain any profits yielded from the object's use; and to transform its structure (Snare, 1972).

Sharing represents "the act and process of distributing what is ours to others for their use, and/or the act and process of receiving or taking something from others for our own use" (Belk, 2007, pp.126).The growth of information technology, smart-phone penetration and availability of internet data has resulted in the emergence of new economy i.e. sharing and renting economy in travel and tourism and consumer goods sectors. This socio-economic model is facilitated by rapid ICT development and it is propagated by online social network platforms (Tussyadiah, 2015).

The theoretical perspective on this phenomenon of sharing and renting products and services is provided in terms of access-based consumption and collaborative consumption.

Access-based consumption: This is defined as market-mediated access-based consumption in which consumers pay money to gain temporary access of the experience of goods and services without owning them. No transfer of ownership takes place in these transactions (Bardhi and Eckhardt, 2012).

Collaborative consumption: Another theoretical understanding is provided in terms of the phenomenon in which consumers/ people coordinate "the acquisition and distribution of a resource for a fee or other compensation" (Belk, 2014 p. 1597). The growth of collaborative consumption is fostered by the consumers as they found more value in accessing collaborative consumption of goods and services as compared to owning them (Bardhi & Eckhardt, 2012; Botsman & Rogers, 2010). Consumers perceive collaborative consumption as more value with less cost (Botsman & Rogers, 2010; Gansky, 2010; Lamberton & Rose, 2012; Sacks, 2011). Several drivers of collaborative economy are suggested by the researchers. Owyang (2013), classified the factors under societal, economic and technology.

There are limited empirical studies that verify the motivational factors for collaborative consumption in both global and Indian context. Not much consumer research literature is found that investigated several form of access-based consumption i.e. sharing out (Belk, 2010).

Rental Business Models: The growth of rental and sharing economy has given birth to large number of players operating in the rental market. These rental companies use different types of business models and market strategies to lead this market.

Different business models for rental companies are listed as below:
  i. **Ownership based business model**: In this case, rental companies procure and own the goods and services to be rented out by them. This business model requires a huge capital investment in the initial phase of the business itself. However, the companies can take full control of their products quality and can differentiate themselves based on it. The ownership of their assets also allows them to refurbish their products before making them available to their next set of customers. Some leading furniture rental companies operates based on this model.

ii. **Vendor based/ Aggregation business model**: The rental companies get in an agreement directly with the manufacturers of the products and establish a monetary sharing norms with them and then they source products directly from the manufacturer/ vendor and make it available to those who want to rent it. The major challenge with this business model is the lack of availability of vendors to source from. Some of the bike and camping product rental companies work on this model. This model is often referred as 'Asset-light' business model too.

iii. **Market-place listing**: This model operates based on the free listing of goods done by a large number of customers in a market place. This model works upon the negotiations between the lender and borrower. The responsibility of product quality is the biggest issue in this model. Though the cost of operating this business model is minimum.

As per a report by Tracxn, a data analytics company, around 100 online rental companies have entered in Indian market since 2015. These companies provide a wide range of offerings from clothing, cars and bikes, toys to books, to even diamond jewellery.

iv. *EMI and RMI*: "EMI or equated monthly installment, as the name suggests, is one part of the equally divided monthly outgoes to clear off an outstanding loan within a stipulated time frame" (https://economictimes.indiatimes.com/definition/emi). The amount of EMI on a loan for buying a fixed asset like an automobile, property or a home appliance, furniture etc. is dependent upon the amount borrowed, tenure of borrowing, rate of interest and monthly/ annual resting period. Rentomojo, a pioneer rental company in Indian market has coined a term RMI (Rental Monthly Installment) which offers an interest-free and way more convenient way to experience a product as compared to the heavily interest-ridden EMIs. Others too are attempting similar pricing models to compete in the market space.A large number of companies in rental domain suggest that cost of renting a product is economical as compared to owning it. However, it depends upon the tenure of renting. The longer an item is rent for, the lesser one pays.

E. Literature Review

A growing number of consumers prefer to experience goods without owning them and they are willing to pay for their temporary access by renting them. The consumer desires are no longer limited to ownership of a product (Chen 2009; Marx 2011). Bardhi and Eckhardt (2012) have integrated and extended the earlier work on shared resources and provided a theoretical development on it in terms of access-based consumption. They have defined access-based consumption as transactions that can be market mediated but where no transfer of ownership takes place. In their research, a systematic comparison and contrast of two different access modes for car i.e. owning and sharing is made.

For a long time in past, renting was looked down as a consumption mode. The consumers renting a product were deprived of security, ownership pride, and investment and depreciation credits. The economic advantage which renting may provide was considered as a major motivation (Durgee and O'Conner 1995). Researchers have different views on the factors driving sharing and collaborative consumption. Gansky (2010); Botsman & Rogers (2011) and Bardhi & Eckhardt (2012), stated that consumers are now open to opt for new brands and they are willing to new ways of fulfilling their needs. The motivation for sharing and collaborative consumption extend beyond saving money (Botsman and Rogers, 2011). Some researchers have suggested that consumer share and rent resources due to the economic benefits arising in terms of low cost (Bardhi & Eckhardt, 2012; Walsh, 2010).

An empirical study was conducted on 754 adult travellers in US to determine the key motivating and deterring factors in use of peer-to-peer accommodation rental services. The study noted that the three deterrents of peer-to-peer rental services were lack of trust, lack of efficacy with regards to technology, and lack of economic benefits (Tussyadiah, 2015). A study on identifying the motives both for and against participating in renting and sharing among peer-to-peer was conducted with the help of an online survey for more than 600 respondents (Hawlitschek, Teubner and Gimpel, 2016).

The renting/ collaborative consumption/ access of goods and services is linked to consumer demographics and their characteristics. In a study by Olson (2013), it was observed that a majority of younger consumers i.e. 32% of GenX and 24% of Millennials found collaborative consumption better to owning goods and services as compared to only 15% of Baby Boomers

indicating so. This research also revealed that consumers within higher income level groups were more open to go for collaborative consumption. Botsman & Rogers, 2010; Walsh (2011), have characterized this form of consumption as innovative and on-trend. Urban & von Hippel (1988), opined that participants in collaborative/ rental consumption exhibit personal innovativeness traits and they expect better benefits from new products and services and tend to adopt new products and services more heavily and quickly than others. The growth of rental and sharing economy is unprecedented and it is further accelerated by the fact that rentals offer reduced expenses and maintenance costs, and they are available at different ranges of price points (Bamania, 2015). He referred to a study done by Ernst and Young, and mentioned that the size of global sharing economy has grown in just four years between 2012 and 2016, at a mind-boggling rate of 140 percent CAGR from $3.5 billion to 115 billion. It is expected that the rental and sharing industry in India is bound to see more disruption in the future ahead as this young generation has limited incomes but never ending wants (Malladi, 2018). The millennial consumer group, wishes to travel, experience life, own new models of smartphone and gadgets, wants to spend on wellness and healthcare. This group aspires for a good lifestyle with surplus disposable income and renting a product offers both convenience and saving to them. E&Y expects and foresees that the rental and sharing economy will grow further and remain a promising service sector for a long period into future in India, as now more and more youngsters have an easy access due to technology and they want to stay asset-light (Radhika, 2018). Another report by Price Waterhouse Coopers, estimated the size of potential revenue from sharing economy to reach a whopping $335 billion by 2025 (Agarwal and Vishwanathan, 2015).

The renting as an economic service, however, is not new for Indian market. Indian consumers have used rental services for wedding dresses and jewellery, cars, bike, video and books even long back. However, the entire renting business sector was unorganized and fragmented. The growth of new forms of rental businesses, signalling the growth of rental economy as a new phenomenon and success of different business models in the recent years has given lot of confidence to new players to see this business as a completely new industry and shape it into a more structured and organized one, using the technology platforms on one-side and designing the service models to customize to the emerging lifestyles and consumption attitudes of the millennials. The renting business has now expanded itself to cover a large array of things such as clothes and accessories, furniture and home appliances, four-wheelers and two-wheelers, houses, shared offices, sharing of financial resources, and in a rare case even pets.

Research Methodology

The present study aims to examine the emergence of start-ups in rental business in India, explore the factors contributing towards the growth of renting/sharing behaviour among consumers, and investigate the rental service models, say, for example, whether the rental monthly instalment (RMI) concept is seen as a viable alternative to traditional purchases through equated monthly instalments (EMI). This study is pursued on an exploratory mode to understand if the motivation and influence on renting a product or service across several sectors can be threaded to any common characteristics, so that a future study could construct an approach and work on identification of factors influencing the consumer behavior in seeking rental services on a technology platform. Especially, it is hoped that the exploration will help understand the possibilities of building on a larger study to identify and redefine the ideal and desired consumption conception for rental services. The present study attempts understanding four types of rental consumptions i.e. vehicle renting (two-wheeler/ four-wheeler, etc.); home sharing (Airbnb etc.); appliances, furniture and gadget renting (Rentomojo, Furlenco etc.) and wardrobe renting (Flyrobe etc.).

The research methodology included both primary and secondary data collection, and the secondary data was collected from the companies' websites, industry reports and customer interactions on different social media platforms.

- Primary data collection – research design:

  For the primary data collection, a purposive sampling method was adopted, with an objective to gather requisite data for identification of basic tenets of the rental service consumption behavior, focusing on Bangalore city consumers, and was done using 14 semi-structured interviews. The respondents were picked through a selection process based on a sole criteria of being a rental service user/consumer in the last one year. The interview guide was constructed based on the literature on ownership and sharing (Bernard 2002; McCracken 1988). Each interview lasted for about 30 to 40 minutes and it was recorded and transcript. The interviews focused on respondents' rental experience, motivations to go for renting, influence on their renting decision, accessibility and practicality of rental business and social acceptance. Qualitative analysis is performed on the data collected both from interview and secondary sources. Data analysis was conducted by reading each interview transcript to identify the factors motivating consumers and influence on renting decision of each respondent.

F.   Data Analysis and Results

The study presents a descriptive snapshot of the rental industry and the sectors covered; and offering an articulation of reading of the minds of the respondents on their rental consumption experience, to decipher the consumer behavior towards "renting in".

Emergence of Rental Businesses – an industry profile:

The businesses that are revving up the rental economy may be categorized into two: one, those offering big-ticket assets on a short term or medium term tenure to be used by customers on a rental service basis, say, appliances, vehicles, electronics, furniture etc., termed, asset rental businesses; and two, those offering services of transportation, fashion, experiencing a technology solution for a service fee, etc., termed, experience rental businesses.

1. **Asset Rental Businesses:** Asset rental businesses which offer movable assets on rental basis, for short, medium and long term usage. The movable assets rental is the most pioneering one, and the firms that started with these, have diversified into other rental services too, on maturing of their clientele.

    a. **Rentomojo:** while real estate business services help customers rent flats and houses, there are no services that rent furniture and home décor, on tech platforms and service models. To fill the gap, Rentomojo started operating as an online rental solution for furniture, furnishings, home appliances, and bikes. It was founded by Geetansh Bamania, Ajay Nain, who defined it as a business that caters to the customer segments 24-35 years, who are constantly on the move and relocation. Rentomojo claims to have one lakh subscribers using their rental services. It operates in renting of several categories: furniture, electronic appliances, gadgets, bikes and men's apparels, and operates in Bengaluru, Mumbai, Delhi NCR, and Pune.

    b. **Furlenco:** a different furniture company, offering in-house designs created inspired by the Indian urban user and their lifestyles. Its services are in Bengaluru, Mumbai, Pune and Delhi-NCR. The company offers furniture for entire homes on a monthly rental subscription model. Its range of products includes solutions for living rooms, bedrooms, and dining rooms, along with a host of benefits that include free relocation, free swap, free deep-cleaning services, and damage waiver.

c. **Rentickle:** A third online platform that provides furniture and home appliances for rent, who offer trendy lifestyle products at a very minimal rental cost. It currently offers its services in Delhi NCR and Hyderabad and has around 10,000 subscribers.

2. **Experience rental businesses**

a. **ZoomCar:** First self-drive car Rental Company in India, founded in 2013 by David Back and Greg Moran. This membership-based service gives cars by hour or by day, using an online reservations platform. ZoomCar offers a fleet of 6000+ vehicles in nine cities including Bangalore, New Delhi, Gurgaon, Mumbai, Navi Mumbai, Hyderabad, Chennai, Pune and Chandigarh. The company has its owned fleet as well as leased from large companies like Avis Budget Group. Other than renting cars, they have also started an initiative called ZoomCar Associate Program, where, individuals invest in a car and offer it on a reverse lease to Zoomcar to build fleet, while also using them to lease the car back to them.

b. **Ola:** It is owned by ANI Technologies Pvt. Ltd, founded in Dec 2010, to serve as a taxi aggregator and cross sells cab taxi services between cab owners and commuters. Ola partners with a number of taxi drivers and owners, and offers them to people looking for a cab ride. Owing to surge and scale, today, it operates as a pure cab aggregator, reducing its scope in the present study as a rental service provider.

c. **Flyrobe:** an online platform for renting designer apparels and accessories, founded by Shreya Mishra, Pranay Surana and Tushar Saxena in 2015. It offers western wear on-demand within a short span of 3-hour timeline and advance booking supplies are made for ethnic wear. It is a one-stop platform to rent designer labels such as Ritu Kumar, Outhouse, Masaba Gupta and Shehla Khan. At present it is operating in Delhi, Mumbai, Hyderabad and Bangalore. They have also expanded their business in offline stores. It has more than 5000 products to offer from over 80 designers. The retail value of their rental apparel is $1 million per month. The rental price of an apparel ranges between Rs. 8000 to Rs. 200,000 and the rental price is between Rs. 799 to Rs. 30,000 for four days sharing. They work on vendor/ designer based model of renting and 50% of the rent earned is shared with the designer (Arushi Chopra, March 17).

d. **Metro Bikes India:** It is co-founded by Vivekananda HR, Anil G and Varun Agni, in 2016, providing luxury and economy two-wheelers on rent. A customer has a choice to pick up a bike from a designated collection point near to him, drive it around and drop it at a drop point on completing trip and pay for the time vehicle is used. The luxury motorcycle rental arm of the venture is known as Wicked Rides, offering them on pure experience rental basis. The company owns over 1,000 bikes and operating in three states. They operate on ownership based model. The fleet of Metro bikes comprises of Honda Activa, Dio, Cliq, Acess, TVS Wego, Pulsar, Ray ZR, Navi, FZ 150 etc. (ET Contributors, November 2017).

e. **Rentomojo** too finds a place in this category, with respect to renting of men's apparel as the company offers a different experience with regard to daily-wear on a regular basis. As part of the renting service, a box with a fortnight's supply of men's dresses for work and leisure are provided and replenished twice a month. Currently this business is on offer in Bengaluru residents.

Analysis of Primary Data:

The analysis of the primary data collection study, to help profile the consumption of different rental services gives some interesting insights. (Exhibit 1: Sample Profile). 80% of the respondents were Males and in the age group of 20-30 years, who have rented a product or a service in the near past. The types of services rented by them included: self-driven bikes and four-wheelers, ethnic and party wear dresses, furniture, and electronic appliances. Their renting experience, key motivations, and major influences, preferences towards renting vs. buying and social acceptability were mapped.

Experience of Renting a Product: The majority of participants shared that they had a 'smooth', 'nice', 'easy', 'customer-friendly' and 'hassle-free' experience while renting products. They used mobile based application for renting these products and KYC documents such as driving license, Aadhaar and Pan Card were uploaded online. However, the participants also shared their discomfort in certain aspects of consuming the assets and in completing the procedures too.

Key motivations to rent or share a product/ service: The interview probed the key reasons/ motivations of participants while renting. The key themes/ motivations emerged during these interactions were:

i.   Affordability: The participants converged on a view that renting provides them an opportunity to afford a product which they cannot buy at the moment or in short-run. Moreover it was also observed that they find it economical as it does not add maintenance costs too.

ii.   Experience variety: Another key motivation was the opportunity to participants' to try new variants of a product. One of the participants shared that the thrill to try new cars every time motivates him to rent a car.

iii.   Temporary/ One-time usage: The participants shared that they are motivated to rent a product because of uncertainties associated with an assignment, location and convenience of a short and temporariness of the arrangement. Especially with regard to costumes, the novelty of wearing once each time, renting is preferred. Renting a product also provides them ease of shifting from one place to another.

iv.   Eco-friendly and sustainable: A few participants stated that they find renting and sharing to be more environment friendly and it results in less negative ecological effects, in disposing and co-sharing, especially with respect to Ola and Uber car sharing services.

v.   Ease of availability and convenient process: Another key motivation on which the majority of the participants have consensus was the easy availability of rental business and an application based access. The participant opined that 'On one app you have the product solutions, delivery solutions, installation solutions and the cost wise it is comparable too.'

vi.   Convenience to pay: The participants converged on a view that convenience to pay in terms of payment methods, amount and tenure motivates them to go for renting. The rental companies provide easy instalments similar to monthly EMI.

Major Influences on Renting a Product/ Service: The insights compiled based on the interviews suggest that, younger member in the family, friends and colleagues, city location such as Bangalore, Delhi or any other Metro city, age of the consumer, tenure of using a product, usage occasion, previous renting experience and availability of discounts and promotional codes have had an influence on renting decisions. The tenure has major influence on renting i.e., shorter the duration of usage of an asset, the higher the motivation and preference to rent it. And if the person is stable at a location and want to use a product for a longer duration than he/she will go for owning it.

Preferences towards Renting vs. Buying: As discussed in the paper above, 'RMI' stands for rental monthly instalments and the rental companies are offering products on rent by providing an

alternative to customers for not paying EMI. The researchers tried to discover the participants' perspective on considering 'RMI' as an alternative to 'EMI' by probing them on their preferences. It is observed: participants consider renting better than buying as it allows them to try before they buy; renting a product is easier than buying it because the KYC and process of buying a product on loan by paying EMIs is complicated while the standards and process for renting out are simpler and easier; renting provides better asset value as compared to owning it and rental companies also provide an opportunity to own a product you rent, at the end of the rental duration. Few other related views that emerged were regarding category of assets say, apparel finding more tilt towards owning than renting, favorable for personal use than for family use. Participants also observed that the *Social Acceptability is more skewed towards metro cities than smaller cities, presumably so.*

G. Conclusion and Future Directions:

The exploratory study brought out few interesting observations. While the premise on which the study took off – basically to assess the impact a rental payment (figuratively called RMI, and being tried out as a USP by one of the rental businesses) vis-à-vis a conventional EMI and see how the shift in servicing a rent has gained trend to become a fast emerging industry, the observations point to three key directions for further research:

i. ***Categorization of rental businesses*:** The first and foremost observation is with regard to the understanding it offered to categorize the rental businesses on the basis of what is being rented out – a mobile physical asset or an experience of a very limited duration, vis-à-vis contemporary services industry, where almost every service is offered on an experience basis only.

ii. ***Service innovations for consumer centric price-economics models*:** The second important observation drawn from this study is with regard to creating business models that address the economic value creation at the hands of the customer, fusing technological applications with service design. Creation and delivery of better price-consumption unit happens to be the key factor leading the growth, while it needs to be studied with a full-fledged research framework; especially due to the very nature of these startups, which, unlike conventional rental businesses, the "rent seeking attitude" of a resource owner is transformed into "value for money through convenience"; and creating "perceptions in the mind" towards that end, both with and without the aid of marketing communication tools. All the respondents' responses hover around this aspect.

iii. ***Scope to redefine ideal and desired consumption concepts***: A detailed study, with empirical data analysis to identify the factors that promote renting consumption as a predominant feature of emerging services, it is noted, would be certain and possible. Secondly, creating innovations in services delivery using technology platforms and building perceptual acceptance to a new economic model for individual's consumption pattern through a demonstrable and replicable model is possible using this emerging industry.

H. References:

1. Sellens, Joan Torrent (2019). Collaborative Behavior and the Sharing Economy: Pan-European Evidence for a New Economic Approach. Available from: https://www.researchgate.net/publication/331000376_Collaborative_Behavior_and_the_Sharing_Economy_PanEuropean_Evidence_for_a_New_Economic_Approach#pag:6:mrect: (344.15,761.88,19.62,12.43) [accessed Feb 14 2019].

2. Govind, Deepti (2018). From furniture rental to a leasing company: The story of RentoMojo. Live Mint, August 16.

3. Evan J. Jordan & Jocelyn Moore (2018). An in-depth exploration of residents' perceived impacts of transient vacation rentals. Journal of Travel & Tourism Marketing, 35:1, 90-101, DOI: 10.1080/10548408.2017.1315844

4. Radhika, K.T.P. (2018). Want it? Rent it. Business Today, June 3.

5. Hawlitschek F, Teubner T, Gimpel H. (2016). Understanding the sharing economy. Drivers and impediments for participation in peer-to-peer rental. In: Proceedings of the 49th Hawaii International Conference on System Sciences. Honolulu: IEEE; 2016. pp. 4782-4789

6. Agarwal, Sapna and Vishwanathan, Vivina (2015). The rise of rent economy. Live Mint, December 9.

7. Ernst and Young (October, 2015). The rise of sharing economy: The Indian Landscape.

8. Tussyadiah, I. (2015). An exploratory on drivers and deterrents of collaborative consumption in travel. In Tussyadiah, I. & Inversini, A. (Eds.), Information & Communication Technologies in Tourism 2015. Switzerland: Springer International Publishing.

9. Owyang, J. (2013). The Collaborative Economy: Products, services and market relationships have changed as sharing startups impact business models. To avoid disruption, companies must adopt the Collaborative Economy Value Chain (A Market Definition Report). Altimeter.

10. Lamberton, C. P. & Rose, R. L. (2012). When ours is better than mine? A framework for understanding and altering participation in commercial sharing systems. Journal of Marketing 76(4): 109-125.

11. Olson, K. (2013). National Study Quantifies Reality of the "Sharing Economy" Movement. Retrieved from http://www.campbell-mithun.com/678_national-study-quantifiesreality-of-the-sharing-economy-movement.

12. Bardhi, Fleura, Giana M.Eckhardt, and Eric J. Arnould (2012). Liquid Relationship to Possessions. Journal of Consumer Research, 39(3), electronically published January12.

13. Belk, Russell, and Rosa Llamas (2011). The Nature and Effects of Sharing in Consumer Behavior. Transformative Consumer Research for Personal and Collective Well-Being, ed. David Glen Mick, Simone Pettigrew, Cornelia Pechmann, and Julie L. Ozanne, NewYork: Routledge, 625–46.

14. Walsh, Bryan (2011). Today's Smart Choice: Don't Own. Share. Time International, Atlanticed, March 28.

15. Sacks, D. (2011). The sharing economy. Fast Company. Retrieved from http://www.fastcompany.com/1747551/sharing-economy on Feb 12, 2019.

16. Gansky, Lisa (2010), The Mesh: Why the Future of Business Is Sharing, New York: Penguin.

17. Botsman, Rachel, and Roo Rogers (2010). What's Mine Is Yours: The Rise of Collaborative Consumption. New York: Harper Collins.

18. Chen, Yu (2009). Possession and Access: Consumer Desires and Value Perceptions Regarding Contemporary Art Collection and Exhibit Visits. Journal of Consumer Research, 35(April), 925–40.

19. Marx, Patricia (2011). The Borrowers. New Yorker, January31, 34–38.

20. Durgee, Jeffrey, and Gina O'Connor (1995). An Exploration into Renting as Consumption Behavior. Psychology and Marketing, 12(2), 89–104.

21. Belk, Russell (2007). Why Not Share Rather than Own? Annals of the American Academy of Political and Social Science, 611 (1), 126–40.

22. Snare, Frank (1972). The Concept of Property. American Philosophical Quarterly, 9(2), 200–206.

Web-links:

1. https://yourstory.com/2015/01/mumbai-based-rentomojo-lets-rent-furniture-affordable-prices/

2. https://startupsjourney.com/list?list=TURReE9EQTJNREV5TURRNA%3D%3D&d=Furl enco

3. https://www.topcashback.in/furlenco/

4. https://en.wikipedia.org/wiki/Furlenco

5. https://www.owler.com/company/rentickle

6. https://www.crunchbase.com/person/amit-sodhi

7. https://razorpay.com/case-studies/rentomojo

8. https://www.yosuccess.com/blog/zoomcar-indias-first-largest-self-drive-rental-company-market-share-60/

9. https://economictimes.indiatimes.com/small-biz/startups/features/how-two-indian-biking-companies-are-helping-ease-bangalores-traffic-woes/articleshow/61792857.cms

10. https://www.livemint.com/Companies/IeDsOs8OCzYMNaWGUboDCK/Online-platform-to-rent-designer-apparel-Flyrobe-to-expand-t.html

Exhibit 1: Respondents' Profile

Partici -pant	Age	Gender	Location	Profession	Income	Category Rented
1	23	M	Bangalore	Student	N.A.	Two-Wheeler
2	26	M	Delhi-NCR	Engineer	10 LPA	Four-Wheeler (Self-Driving)
3	23	M	Bangalore	Student	N.A.	Four-Wheeler (Self-Driving) and Apparel
4	22	M	Bangalore	Student	N.A.	Two-Wheeler
5	58	M	Bangalore	Professor	18 LPA	Furniture
6	23	F	Ranchi	Student	N.A.	Apparel
7	24	M	Bangalore	Engineer	4 LPA	Four-Wheeler (Self-Driving)
8	25	F	Bangalore	Student	N.A.	Ola and Uber
9	29	M	Mumbai	Consultant	15 LPA	Electronic Appliance (T.V.)
10	25	F	Bangalore	Doctor	6 LPA	Furniture
11	25	M	Bangalore	Student	N.A.	Two-Wheeler
12	23	M	Bhuwneshwar	Engineer	5 LPA	Four-Wheeler (Self-Driving)
13	24	M	Varanasi	Sales	10 LPA	Bikes, Cars and Apparel
14	25	M	Bangalore	Engineer	6 LPA	Ola and Uber

Role of Non Verbal Communication in Non-Banking Financial Corporation Service Encounters

Ms. Amrita Baid More
Academic Associate, IIM Indore
Research Scholar, DAVV, Indore

Abstract

The Non-Verbal features of any service encounter play a very imperative and noteworthy position in customer satisfaction. The non-verbal aspects of employee-customer dealings have remained uncharted in service marketing research. Thus, the intention of this paper is to investigate the significance of non verbals in client servicing of Non-Banking Financial service provider during service exchanges. In particular, a conceptual model has been endow with that associates the non-verbal communication aspects (Kinesics, paralanguage, Proxemics and Physical Appearance) with customer affect and consumers assessment of service providers (Empathy, friendliness, courtesy, competence and credibility).Further significance and decision-making insinuation of non-verbal communication have been presented.

Keywords: service marketing, service quality, non-verbal communication, customer satisfaction

A. Introduction

Essentially, a service encounter has been defined as a social interaction involving one human being interacting with another (Czepiel et al. 1985).A service encounter is that period of time during which the customer and the service firm interact in person over telephone or through other media (Shostack 1985).Given the elevated amount of person-to-person interaction and, fairly regularly the nonexistence of an exchange of substantial goods, the service encounter becomes a critical component of service quality. There are three key dramatis personae involved in a service encounter that shape the result of any encounter: the service providing company, which sets policies and guidelines; the employees, who act out the policies of the firm; and the customer, who seek to satisfy a range of needs and wants. Czepiel et al. (1985)

identified seven key characteristics of a service encounter that can be considered the distinguishing factors when analyzing service encounters. Briefly, service encounters usually

● are goal oriented

● are undertaken as part of work activities

● are primarily a stranger relationship

● are narrow in scope: only surface topics of conversation

● are mostly task oriented

● mostly follow a pre-defined set of rules to facilitate the interaction

● involve the roles of service provider and client (customer)

It is probably correct to declare that service encounters are comparable in that they have certain familiar distinguishing characteristics. However, owing to the dynamic character of human interactions; every encounter differs to some extent, due to the presence of non-verbal human behavior.

Scholars' definitions of nonverbal communication widely vary, but most agree that it means using all communication methods other than language. For example, Miller et al. (1967) said that nonverbal communication was closely related to intentional behaviors, Samover et al. (1981) stated that it was stimuli with the form of messages other than language in communication. It is even suggested that nonverbal communication, the form of communicating thoughts and emotions without using words, accounts for nearly 70 percent of all communication (Barnum and Wolniansky, 1989). Birdwhistell (1952) also concluded that 65% or more of human communication was delivered in nonverbal forms and only 35% in verbal forms.

Based on Sundaram and Webster (2000)'s study traits of nonverbal communication divided to:

1. Kinesics; body orientation, eye contact, nodding, hand shaking, smiling;

 2. Proxemics: distance and relative postures of the interact ants;

3. Paralanguage;

4. Physical appearance: physical attractiveness and clothes.

Richmond and McCroskey(2006)categorized nonverbal communication into physical appearance, gesture and movement, face and eye behavior, vocal behavior, space, touch, environment and time.

Nonverbal communication is a highly interesting realm, apart from being extremely important. It plays a vital role especially in the place of work and mainly when the job involves dealing with customers. When a customer service agent is interacting with a customer the nonverbal communication signals can notify the customer if they are being listened to with the aim of understanding or not. A person adept at this approach of contact will be more victorious in managing relationships than someone who relies merely on the spoken word. Effective nonverbal communication skills in customer service are the foundation of understanding and customer satisfaction. Many research studies have identified nonverbal cues (body language) as being more powerful than spoken words, especially while involving money matters.

There are a variety of NBFCs that an individual comes across in day to day life that involves itself in various financial activities. The Reserve Bank of India (RBI) defines a Non-Banking Financial Company as, "A Non-Banking Financial Company (NBFC) is a company registered under the Companies Act, 1956 engaged in the business of loans and advances, acquisition of shares/stocks/bonds/debentures/securities issued by Government or local authority or other marketable securities of a like nature, leasing, hire-purchase, insurance business, chit business but does not include any institution whose principal business is that of agriculture activity, industrial activity, purchase or sale of any goods (other than securities) or providing any services and sale/purchase/construction of immovable property."
Simply put, a Non-Banking Financial Company (NBFC) receives money as a whole or in installments connected to a scheme and runs its financial process.

In any service industry, especially in NBFC'S the experience that the customer has on the brand decides its future. The basis on which the brand would be judged would be the service encounters or the moment of truth of the customer that they would be getting through various interactions with the brand.

Thus in case of any service based organizations the ideal opportunity for the company is to look at improving the customer touch points which are the key areas where there is an existing interaction with the customer. This is in ensuring that they leave a positive impact with the customers.

B. Theoretical Framework

In financial services, there is a restricted number of likelihood to make an impact on the customer, since the services are becoming automated further. Since, personal interactions with customers are becoming less frequent; customers are expecting superior quality acquaintances and more individual treatment. By matching service employees with customers, the effects of certain human resources strategies may be ascertained through the customers perception of the employee service quality and the overall service quality.

From a managerial viewpoint, it is important to understand not only how services employees nonverbal behavior-their degree of friendliness, credibility, trustworthiness and competence-relate to customers perceptions of service quality, but also how customers evaluate their interactions with service employees to determine the extent to which service employees are friendly, credible, trustworthy, and competent. An understanding of the impact of nonverbal communication on customer's evaluations will enable service providers to train their employees to utilize non-verbal clues more effectively so that customer's perceptions are affects in the most positive manner.

C. Literature Review

Solomon et al. (1985) devised the service encounter concept and defined it as a face-to-face interaction between service providers and recipients during the process of service consumption. Shostack (1985) offered a broader definition of this concept: a service encounter is "a period of time during which a consumer interacts with a service". Service encounter is generally defined as a consumer's direct contact with a service provider, including both face-to-face interaction and experience. In service encounters the moment of truth is realized at, when the service provider and the service customer confront one another in the arena. At that moment they are very much on their own. It is the skill, the motivation, and the tools employed by the firm's representative and the expectations and behavior of the client which together will create the service delivery process. A point in service delivery where customers interact with service employees or self-service equipment and the outcome may affect perceptions of service quality. In an investigation of service employee's behaviors that led to customer dissatisfaction, unpleasant or displeasing behavior surfaced as one of the major reasons for customer satisfaction (Bitner *et al*., 1990). , Burgoon (1980) concluded that nonverbal signals

transferred more information and that they were to be trusted more than verbal signals. The service encounter, in particular, can play a prominent role in determining a customer's satisfaction with the firm (Bitner, 1990; Bitner et al., 1990; Czepial et al., 1985; Suprenant and Solomon, 1987; Woodside et al., 1989)

The concept of interpersonal communication skills was firstly introduced in 1950s (Berko et al., 1998). Interpersonal communication skills have been defined as ability to work well with people, and involve your acceptance of others, without prejudice. This does not always mean that you like the person, but you are able to overcome your dislike in order to achieve your tasks (Smith, 2009).

Past research in sociology and communication indicated that individuals learn from early childhood how to use non-verbal behavioral signals as a communication medium (palmer and simmons, 1995).In fact, the manner in which individuals learn to communicate non verbally is similar to how they learn a vocal language. Once having learned to communicate nonverbally, individuals consciously and unconsciously integrate nonverbal clues into conversations, using them to convey specific social meanings such as intimacy, involvement and dominance. (Burgoon, 1991). Effective interpersonal communication in public sector focuses on open and direct relationship between employees and citizens, thereby results in improving their commitment, productivity and organizational performances. It contains a permanent force that brings together all organizational members and guides them in a direction towards achieving the goals. Only institutions that succeed in establishing principles of effective communication have the privilege to play the role of successful organizations in today's social conditions of change and dynamism.

D. Research Method

```
┌─────────────────────────────────────────────────────────┐
│              NON VERBAL COMMUNICATION                    │
├───────────────────────────┬─────────────────────────────┤
│       Paralanguage        │         Proximics           │
│        kinetics           │     Physical Apperance       │
└───────────────────────────┴─────────────────────────────┘
                    ┃ Leads
                    ▼  to
┌─────────────────────────────────────────────────────────┐
│                Evaluaiton by Customer                    │
├───────────────────────────┬─────────────────────────────┤
│       Freindliness        │   Empathy      Competence   │
│         courtesy          │        Credibility           │
└───────────────────────────┴─────────────────────────────┘
```
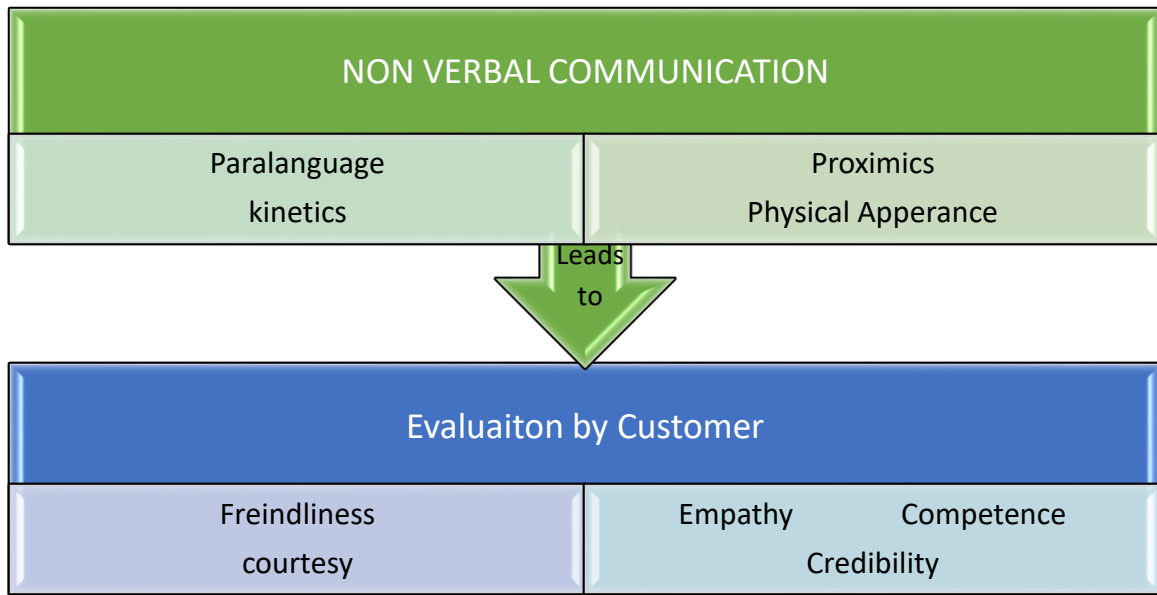
To guide the discussion, a conceptual model has been implemented. The model highlights the role of non-verbal communication in service interactions. The paper mainly focuses on the relationship among the nonverbal clues of Non-Banking financial corporation service provider on the customer's individual feelings resulting in assessment of service encounter. On verbal clues have been group into four major categories: Paralanguage, Kinetics, Proxemics and Physical Appearance. The model further suggests that customer's non-verbal and verbal responses influence service provider's nonverbal cues. Regardless of weather service providers nonverbal clues are in response to customers cues; service provider's nonverbal behavior is likely to have a significant impact on customer's affective state or feelings.

"Leads to" is used as an intermediate step between nonverbal cues and service evaluations because customers evaluation of the service provider is an outcome of the cognitive process in which they identify ,associate and evaluate verbal and non-verbal cues provided by the service provider. The customer is influenced in appositive or negative manner depends primarily on their interpretation of non-verbal cues.

E. Data Analysis and Result

For the purpose of the study analysis of 150 service encounters in NBFC in Indore city was done. The respondents were observed without their knowledge, so as to maintain the authenticity of their non-verbal; their interpretation of the non-verbal of the service provider was asked after the observation. For the purpose of the study the following sub categories of non-verbal communication cues were included in the determined criteria's of evaluation.

Proximics(Touch)(Distance)
- Touch
- Distance(Interpersonal Distance)

Kinesics(Body movement)
- Posture
- Eye contact
- Nodding
- Hand Shaking
- Smiling

Paralanguage (pitch,speed)
- Vocal pitch
- PitchVariation
- Pauses in speaking
- Fluency in Speaking

Physical Apperance
- Attire and its colour
- Hair and Nails
- Physical Features
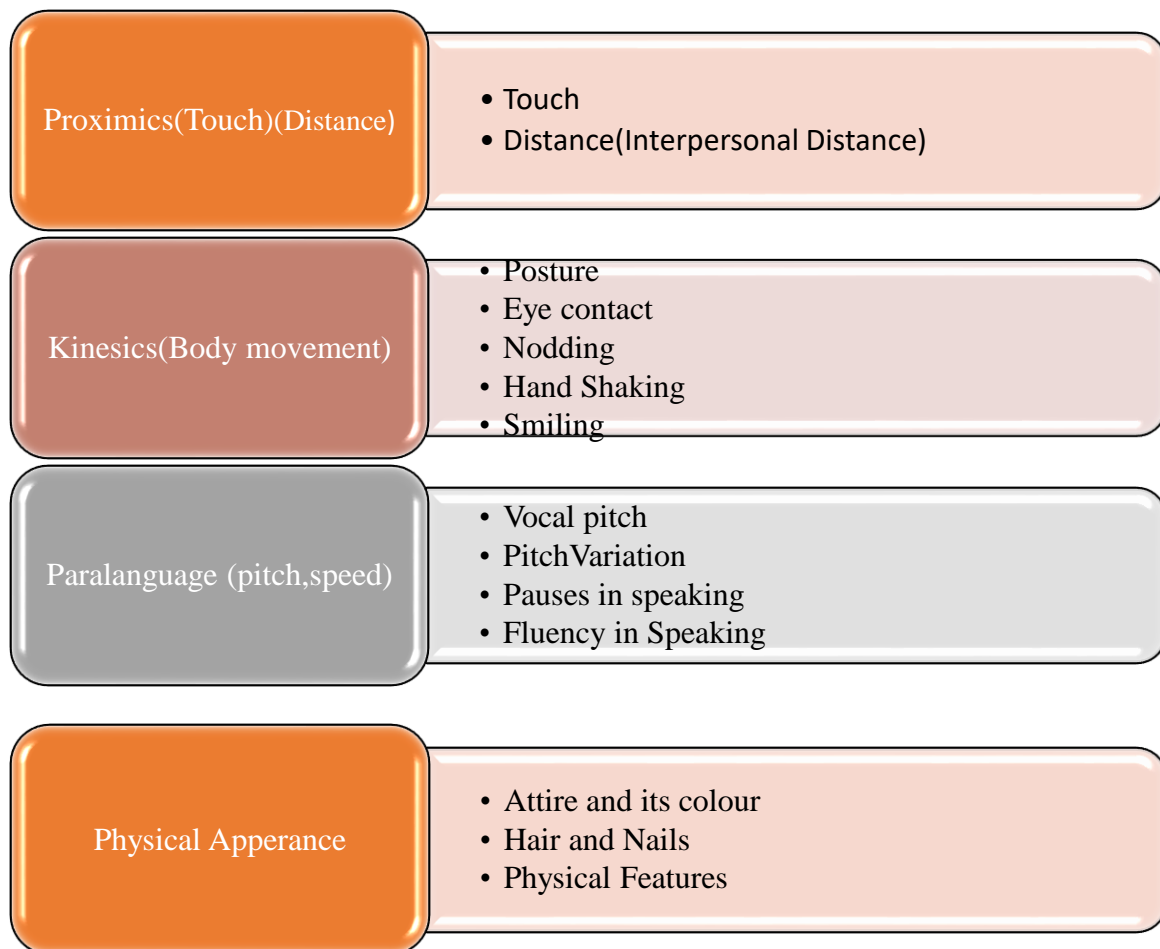
The term Proxemics - denoting, "The study of how human beings communicate through their use of space"- was coined by E.T.Hall, an Anthropologist by profession. He defines the term as, "The spatial dimension of non-verbal behavior" (Hall 1963; p 122). It has created a revolution in this field and has given a new dimension to the study of non-verbal communication. In simple words, Proxemics can be defined as the study of means in which individuals make use of the physical space in the interaction between the individuals. Each and every organism in the universe tries to occupy, cultivate, preserve and utilize space. The theory

of relational Communication suggests that the use of the non-verbal cue of touch in an interpersonal exchange can increase attention arousal and interpersonal involvement and significantly impact recipients' attitudes toward the source of the touch.

One of the aspects of nonverbal communication is kinesics. Kinesics, which is often called body language in the popular vernacular, is the study of a type of nonverbal communication which interprets body movement (posture, gestures, facial expression) as communication. In respect of this research eye contact and hand shaking were also included in kinesics. The term was coined by Ray Birdwhistell whose book Introduction to Kinesics: An Annotation System for Analysis of Body Motion and Gesture published in 1952 marked the introduction of formal research on body motion communication, although anthropologists' and descriptive linguists' growing interest for the study of nonverbal communication was present from the 1940s. It is important to note that kinetic motion is rarely isolated, often being a part of a cluster of movements. A single smile or a nod will not make an interpreter seem positive or confident; it takes a constant stream of similar meaningful movement to make a certain kind of impression. Since their meaning is deduced from a cluster, is not worth stressing over every single body posture or gesture.

About paralanguage features, linguist Abercrombie has ever said "we speak with our vocal organs, but we converse with our entire bodies… the conversational use of spoken language cannot be properly understood unless paralinguistic elements are taken into account" (Key, 1975). About method of expressing meanings of paralanguage was always paid attention to. Samovar, Porter and Jain (1981) think paralanguage "involves the spoken language ingredient, refers to the actual information the different expression supplies, but about how this information does is express"; they believe paralanguage "is the behavior with sound which is follows, interruption or replaces temporarily. It plays the role of follow of spoken language through tonality, volume, voice quality, the clarity and the intonation".

Physical or personal appearance is one of the most vital component that plays a vital role in communicating messages to others. Physical appearance includes attire, ornaments, makeup, style etc. that a person puts collectively ahead of appearing in open. The whole of physical appearance provides visual signals to a person's interest, age, personality, style, sex, attitude, social standing, and religious affiliation and so on.

F. Result

The observation and discussion with the customers lead to the following results:

- Good and appropriate use of kinesics, Proxemics and physical appearance by the NBFC service provider lead to enhanced empathy by the customer towards the service provider.
- Paralanguage, Proxemics and physical appearance guided the way of forming an impression of friendliness by the consumer about the service provider.
- A reaction of Courtesy from the client was developed by good kinesics and physical appearance of the service provider
- Good physical appearance and paralanguage of the service provider was able to develop better competence.
- Kinesics, paralanguage and physical appearance increased credibility of the service provider for the customer.
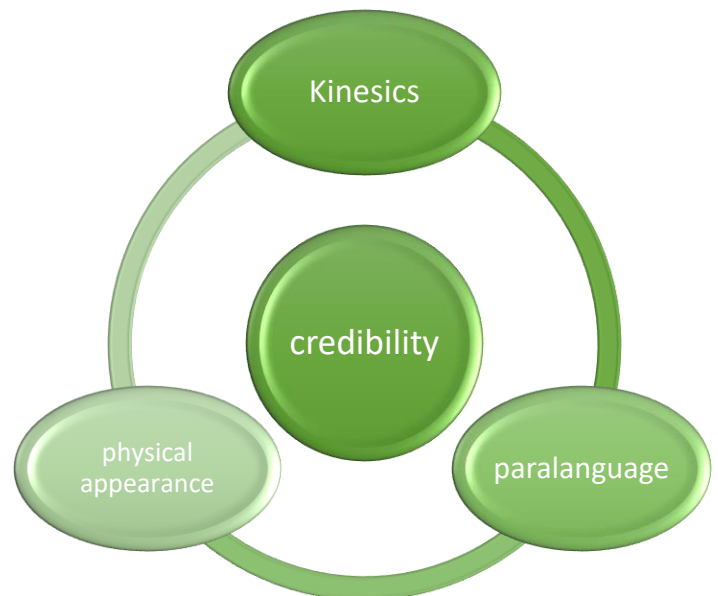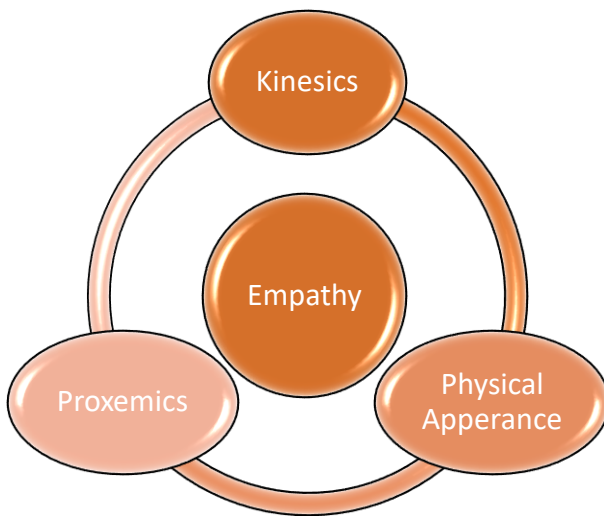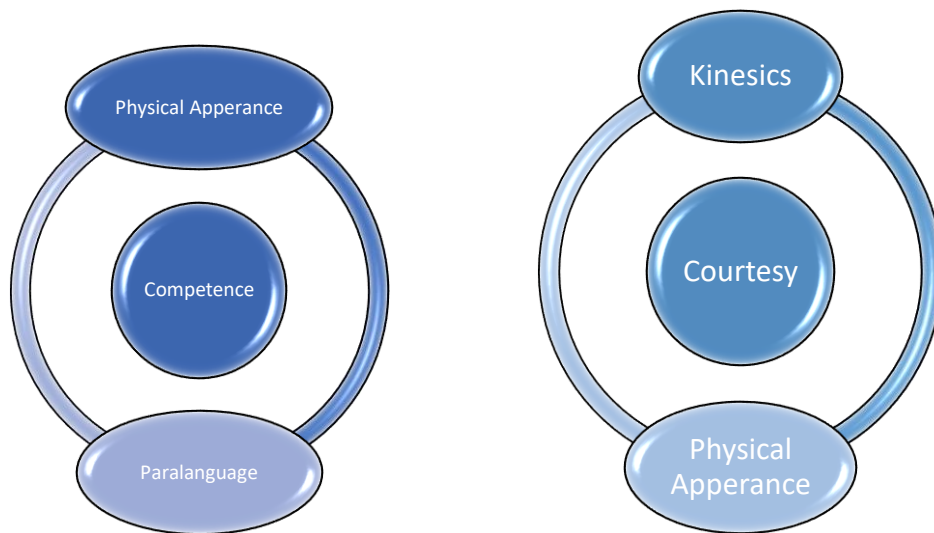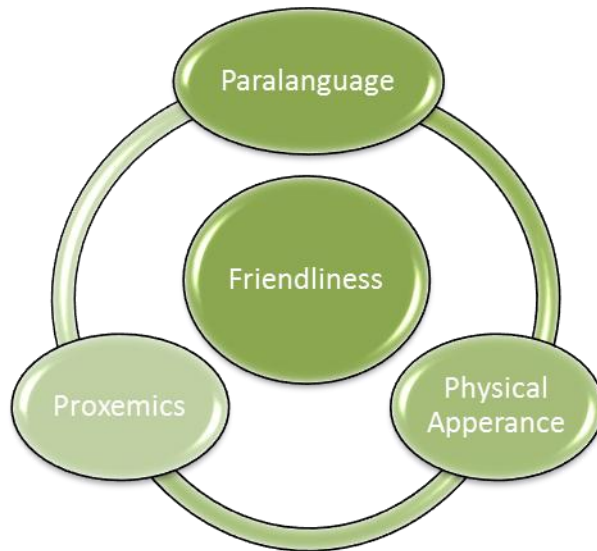
G. Conclusion

NBFCs are financial intermediaries engaged in the business of accepting deposits delivering credit and play an important role in channelizing the scarce financial resources to capital formation. They supplement the role of the banking sector in meeting the increasing financial needs of the corporate sector, delivering credit to the **unorganized sector** and to small local borrowers NBFCs cater to a wide variety of customers – both in urban and rural areas. They finance projects of small-scale companies, which is important for the growth in rural areas. They also provide small-ticket loans for affordable housing projects. All these help promote

inclusive growth in the country. Acting as a bridge between the organized and unorganized; urban and rural; investor and investee, the role and importance of NBFC customer service provider cannot be ignored.

Control over ones non-verbal behavior in a work setting while dealing with clients at times becomes quite difficult for the service provider. This is so because it is partially determined by stressors such as the emotions and thoughts triggered by customer's behavior. Therefore, managers must understand the importance of training their service employees and help them in controlling their emotions and non verbals. Doing so, will lead to control over the non-verbal behavior by the service providers. Also this will help them in understanding the impact of their body language on the customer perceptions.

In summary, understanding of how nonverbal cues affect customers' evaluations is important to NBFC service provider as it would lead to effectively reducing psychological distance and enhance the pleasant affect in the communication.

References

Barnum, C. and Wolniansky, N. (1989), ``Taking cues from body language'', Management Review, June, pp. 59-60.

Berko, Roy.M. Wolvin, Andrew.D & Wolvin, Darlyn.R. (1378) Communicating: A Social and Career focous. (S.M. A'arabi and D. Izadi Trans.). Tehran:Pazhohesh'hai Farhangi. (Original work published 1998).

Burgoon, J.K. (1991), "Relational message interpretations of touch, conversational distance and posture", Journal of Nonverbal Behaviour, Vol.15.pp.233-59

Birdwhistell, R.L., 1952. Introduction to Kinesics. University of Louisville, Louisville, KY

Birdwhistell, Ray L. (1952). Introduction to Kinesics: An Annotation System for Analysis of Body Motion and Gesture. Washington, DC: Department of State, Foreign Service Institute

Bitner, M., Booms, B. and Tetreault, M. (1990), "The Service Encounter: Diagnosing Favorable and Unfavorable Incidents", Journal of Marketing, Vol. 54, January, pp. 71-84.

Burgoon, J. K. (1980) "Nonverbal communication research in the 1970s: An overview". In D. Nimmo (Ed.), Communication yearbook 4. New York: New Brunswick.

Czepiel, J., Solomon, M. and Surprenant, C. (1985), The Service Encounter: Managing Employee/Customer Interaction in Service Businesses, Lexington Books, New York, NY

Czepiel, J. A., Solomon, M. R., Surprenant, C. F. and Gutman, E. G. (1985) Service encounters: an overview, In Czepiel, J. A., Solomon, M. R. and Surprenant, C. F. (Eds.), The Service Encounter: Managing Employee/Customer Interaction in Service Businesses, Lexington Books: Lexington, MA, 3–15.

Hall Edward T (1963), Proxemics: The Study of Man's Spatial Relations and Boundaries", Man's image in Medicine and Anthropology, International University Press, New York.

Key, M. R. (1975). Paralanguage and kinesics

Miller, R.E., Caul, W.F., Mirsky, I.A., 1967. The communication of affects between feral and socially isolated monkeys. Journal of Personality Society Psychology 7, 231-239.

Palmer, M.T. and Simmons, K.B. (1995), "Communicating intentions through nonverbal behaviors", Human Communication Research, Vol.22, September, pp 128-60.

Patterson.M.L. Powell, J.L. and Lemhan.MG. (1986),"Touch compliance and interpersonal affects", Journal of Nonverbal Behaviour, Vol.10 o. 2, pp. 41-50.

Richmond, V. P. and McCroskey, J. C. (2004). Nonverbal behavior in Interpersonal relations (5th edition). Boston: Pearson Education

Samover, L., Porter, R., Jain, N., 1981. Understanding Intercultural Communication. Wadsworth Publishing Company, Belmont, CA.

Shostack, G. L. (1985) Planning the service encounter, In Czepiel, J. A., Solomon, M. R. and Suprenant, C. F. (Eds.), The Service Encounter: Managing Employee/Customer Interaction in Service Businesses, Lexington Books: Lexington, MA, 243–254

Solomon, M.R.; Surprenant, C.S.; Czepiel, J.A.; Gutman, E.G. A role theory perspective on dyadic interactions: The service encounter. J. Mark. 1985, 49, 99–111. [CrossRef]

Shostack, G.L. Planning the Service Encounter; Lexington Books: Lanham, MD, USA, 1985.

Smith, Michael. (2009b). The important of interpersonal skills [Online] Available: http//:www.AssociatedContent.com

Sundaram, D.S., Webster, C., 2000. The role of nonverbal communication in service encounters. Journal of Services Marketing 14 (5), 378–391.

Suprenant, C. and Solomon, M. (1987), "Predictability and Personalization in the Service Encounter", Journal of Marketing, Vol. 51, April, pp. 86-96

Smart City Mission in India: Is fulfilling the need, dreams of human resources, common man?

Priyanka Mokale,
M.Phil. TISS,
Mumbai.

Abstract:

This paper look the Smart cities mission in India, what are the objective of smart cities, aims of smart cities really fulfil the needs of human resource common man. In the current era we are seeing that the many youths, students, landless rural people migrate from Rural to urban Metropolitan cities like Mumbai Delhi ,Bangalore ,Kolkata, Hyderabad, Aurangabad ,Pune etc. For employment purpose for getting better quality of life. Everyone come in these cities with some dreams. Some people come with their family, mostly students, Youths come alone to take higher education, by convincing the parents, to giving them the promise, with some dreams, hopes. These all are the human resources those are the part of smart city mission and its development.

The human capital has been measured either in terms of educational attainment of the population or more broadly, a set of knowledge-intensive occupations ,employments/jobs that make up the 'creative class', that is, 'people who add economic value through their creativity' (Florida 2004).

In order to survive in the new environment, new cities, communities need both magnets and glue (Kanter 1995). 'Magnet factors' typically include a healthy and well-educated workforce, clean environment, vibrant business climate, and a solid social and cultural infrastructure. But communities also need 'glue' to hold them together. In addition to the physical infrastructure that supports daily life and work (such as roads, sewers, electricity and communications systems), communities require a social infrastructure to solve problems and promote the economic and social well-being of all their members.

Therefore I want to see the smart city mission for whom it is happening are they satisfied, happy? Are they getting , better quality of life, in terms of civic amenities such as educational facilities, affordable and essential infrastructure such as housing, water,

sanitation ,solid waste management, transport facility etc.? This paper mainly focus on water, sanitation, housing infrastructure issues of urban areas by current policy.

Keywords: Smart City, Civic amenities, metropolitan cities, human capital, human resource, Public Private Partnership, social well-being, magnet factors, Special Purpose Vehicle

Introduction:

Citizens are an important aspect of <u>smart cities</u>. A city cannot be built smart until and unless citizens do not participate in the transformation. Therefore, the involvement of all citizens in building smart city is very important.

City is an ecosystem. In which every part, from human being to small infrastructure all are connected to each other. Like if we want make a highway so we cannot remove the citizens from the city. We cannot separate them from each other, therefore to think about all the components at the time of making the smart city is very important. Following three areas to be address by focusing on the smart city mission is very important:

1) **Socio-economic component**: Socioeconomic status was measured by educational level, family household income, personal income and property ownership.

2) Physical component: Education level was the most important factor for physical and mental functioning, whereas personal income was the most important in social functioning.

3) Institutional mechanism: Institutional mechanism of smart city mission is based on the strong bonding between Centre, state, local government as well as private entity and citizens of that city.

The Success of Smart city is defined only when it is accepted by its citizens as the core aim of the smart city is to build a city which is solely for its people. When we talk about the concept of smart cities then they primarily are cities which is smart enough to provide sustainable, <u>environment</u>-friendly urban infrastructure to its citizens where it has all smart facilities popular as smart solutions, which can ease their life. And, the notion was quite clear in the 4th Smart Cities India expo organized in India's National Capital New Delhi. In the event,

the panel with the topic "Implementing Smart Cities and Transforming India for our Citizens" truly highlights the topic and gave an insight that why citizens are at the heart of smart cities.

[1]Tanja Feldmann, Director, Sustainable Urban and Industrial Development, Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, India said that if a smart city is not as per the needs of its citizens then it is completely not a successful smart city. Citizens' acceptance should be the main focus while transforming a city into a smart city.

Cities are made up of citizens. They are the main components of any city. It is not about technology or infrastructure; infrastructure is the requirement of citizens and technology is an enabler. It is very important to ensure that citizens themselves are ready to be smart and build a smart city by involving themselves to the municipal council and are able to think through what kind of future they want for themselves. As if citizens and government envision together, implementation will be more impactful.

Feldmann added that smart cities need to be more than a just functional operating system and for this, they need to provide a better environment to its citizens where they have prosperous, happier with thriving engaging environment where their daily life become easy with services like better mobility, last mile connectivity, better parking information, single payment card for all facilities etc.

Cities are made up of citizens. They are the main components of any city. It is not about technology or infrastructure; infrastructure is the requirement of citizens and technology is an enabler. It is very important to ensure that citizens themselves are ready to be smart and build a smart city by involving themselves to the municipal council and are able to think through what kind of future they want for themselves.

The selected cities, reportedly, are raising funds through a variety of PPP (Public Private Partnership). However, the PPP model does not necessarily work for the interest of low income and marginalized groups. The involvement of the private sector in such projects dilutes the responsibility of the state in protecting human rights and fulfilling its welfare function assigned

---

[1] [1]https://www.geospatialworld.net/blogs/role-of-citizens-in-building-smart-city/

by the Constitution of India. Latest reports indicate that the private sector has not met the central government's expectations in terms of providing 'affordable housing' or contributing to the achievement of PMAY targets. Despite tax incentives in the 2017–18 budget to the real estate sector for investing in affordable housing, the focus of the industry is largely on housing for middle income groups, which is being touted as 'affordable housing' projects. While dependence on the private sector for the success of it (Anon., 2017).

By above paragraph it is conclude that the in the smart city mission policy implementation more and more private sector companies are involved like. According to an April 2017 report, listed companies that could benefit from projects under the Smart Cities Mission include Godrej Properties in the housing sector, Siemens and Honeywell Automation in the energy sector, Atlas Cycles and Tube Investments in the area of transport, Thermax and VA Tech Wabag in the field of water and waste management, and NIIT Technologies in providing solutions related to information and communication technology. Therefore more and more privatisation is found and these companies focus more by business minded and commercialized manner than social welfare of that city's citizens.

**Theoretical Framework*:*

1) How the sanitation crisis negatively affects business

In the Figure 1. We can see that how because of inadequate sanitation facilities it is affected on the education, jobs of employee .Therefore sanitation plays an important role for the human development, for his economic growth.

Figure1: Sanitation Crisis Negatively affects Business

Source: https://ceowatermandate.org/sanitation/impacts
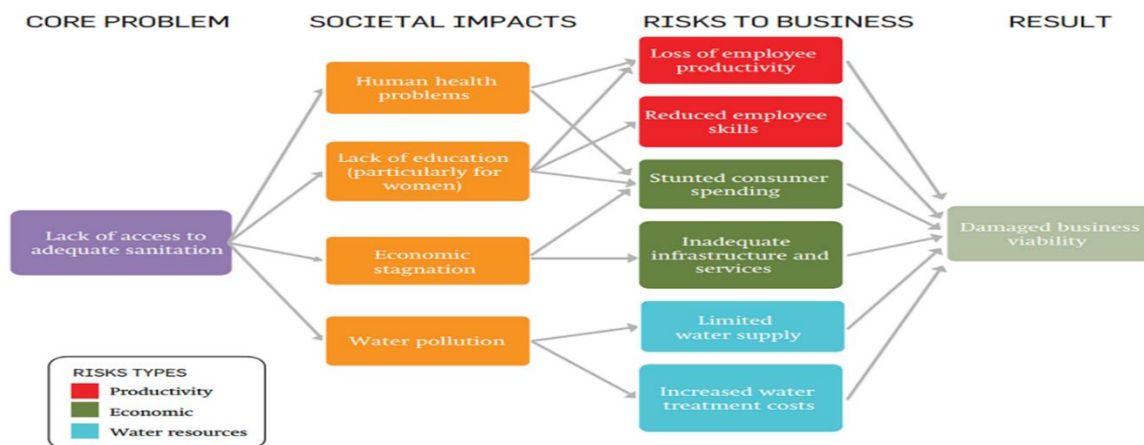
Figure 2: Service Delivery Framework of Urban Sanitation
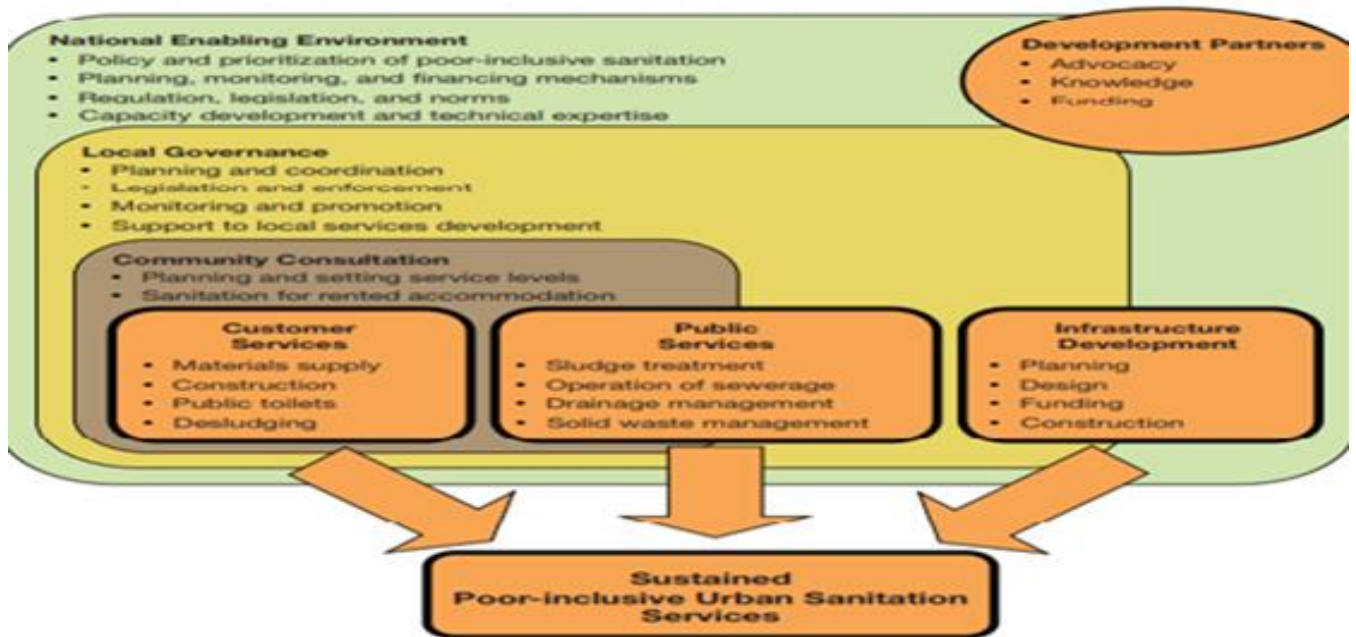
Source: www.wsp.org

By seeing Figure 2 service delivery framework of urban sanitation it is found that the providing sanitation facility is the main and ultimate responsibility of urban local body. But in very few cities, we found that it is implemented or fulfilled the needs of urban poor by the given framework. To found such implementation framework picture in the metropolitan cities slum areas is very difficult.

Figure 3: Components of Smart City framework

Source: http://erticonetwork.com/smart-city-sustainability-framework-and-gamification-3/

By seeing the figure 3 smart city framework we found that it is based on the economic, environment, social sustainability. But now to see the implementation of this smart city

framework on the ground is also important. Smart city mission focus is more on the smart technology, on ICT Information, communication, technology model. And also good governance, people's participation is also important. Therefore to see the framework how the implementation happening of the smart city on ground. Because lots of criticism we see through various literature on smart city mission. Like smart city only focus more on technological aspect, means it is focus by the elite perspective .Therefore to see it by poor people needs by their perspective in the smart city is very difficult. The concept of the Indian smart city seems to create a very expensive and localized development, which focuses on core infrastructure with limited citizen engagement. *"Smart City" isn't a technology concept; it's the political, social challenge of adapting one of the most powerful economic and social forces of our time to the needs of the places where most of us live and work.*

Literature Review:

"The consequence of this has been that the state of Indian cities, both with respect to building and maintenance of urban infrastructure as well as delivery of public services, is highly unsatisfactory, and is far short of what is required to sustain faster and more inclusive growth of the economy." (Ahluwalia*et. al.* 2014: 2)

[2]Census 2011 data shows that 36 percent of households in the informal settlements do not have basic facilities of electricity, tap water and sanitation within the house premises. Over 65 million people live in slums, out of which 1.7 million are homeless. With the increase in urban population, the urban administration has so far failed to address the need of even basic services like safe water and sanitation for the poor. If that is not enough, the information collated by the Housing and Land Rights Network (HLRN) between 2010 and 2015 reveals that at least 49,000 families or over 2, 34,000 people in urban areas have been evicted forcefully from their homes.

India's urban population is growing. More than 50% of the country's population is forecast to be living in cities by 2030. This is a major challenge for government because the country's cities lack the infrastructure (affordable housing, roads) and basic services (sanitation, water, health care) for existing inhabitants, let alone the influx of people over the next decade.

---

[2] http://theconversation.com/indians-promised-benefits-of-100-smart-cities-but-the-poor-are-sidelined-again-107787 (**https://yourstory.com/2017/06/slums-india/**)

Globally, one in eight people live in slums where they face issues of durable housing, access to safe drinking water and toilets, and insecure tenure. In India, one in every six city residents lives in a slum.

Ghosh and Sugam (2013) in their report on Urban Water and Sanitation in India underscore that: "Water supply and sanitation utilities in India have suffered from poor design, poor operation and maintenance practices, lack of accountability, poor data and transparency, and inadequate investments.

Interestingly, all the different stakeholders have different perspectives on smart cities based on their own points of view. The engineers and technologists for example may look at it as a complex system having number of layers. Architects may look at it from spatial and planning perspective. For social researchers it's a place for living, social inclusion and enjoying community life. Government and civic authorities may like to view it: "in terms of economic growth and new or improved city services supported by policy initiatives designed to effect change." (Falconer and Mitchell: 2012).

However, a working definition of smart cities by the British Standards Institution brings better clarity. According to BSI (2014): 'Smart cities' is a term denoting the effective integration of physical, digital and human systems in the built environment to deliver a sustainable, prosperous and inclusive future for its citizens.

Smart City Mission suffers from inadequate participation, consultation and information The study said while there was some level of "engagement" with residents in the development of Smart City proposals, the people's participation, especially from low-income communities, was generally "not adequate". It said there were also no tools to evaluate if the inputs collated during public consultations had been factored into the final proposals and selection of 'smart city' projects in each city.

Further, the study said the lack of adequate standards to guide project development and implementation, including for housing, water, sanitation, health, and environmental sustainability, had raised questions about whether the Mission will be able to deliver on its aims.

Concerns regarding forced evictions, land acquisition and displacement

[3]The HLRN study said while housing for economically weaker sections (EWS) and low-income groups (LIG) has been identified as an area of concern in almost all proposals, none of the cities have recognised housing as a human right or included standards of 'adequate housing' for their projects. The goal of several cities to become 'slum-free' without including concomitant indicators – such as the number of houses demolished or the number of homeless persons recorded in the city every year – to assess the realisation of this target, could promote evictions and the destruction of low-income settlements, it cautioned.

The report also said evictions have been reported from several 'smart cities'. In 2017, it recalled, there were forced evictions and demolitions of homes in 32 of the 99 'smart cities 'of these while some were directly linked to 'smart city' projects, others were carried out in the name of 'city beautification' or 'slum clearance.' With eight smart cities also proposing Greenfield development, the report said this could increase land acquisition and result in displacement of farmers and other rural communities.

Environmental concerns regarding e-waste increase and forest cover loss

The report has also raised environmental concerns and stated that smart cities development could also pose threats of increased e-waste and loss of forest cover in the pursuit of Greenfield development and city-based infrastructure projects.

It has also referred to apparent lack of convergence of Smart Cities Mission with other schemes such as Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Swachh Bharat Mission, the Pradhan Mantri Awas Yojana.

(PMAY) or Housing for All–2022 scheme and the National Urban Livelihoods Mission (NULM). "A review of these schemes reveals a multiplicity of targets and overlapping areas of intervention. Ninety-two of the 99 selected 'smart cities' are also covered under AMRUT, while most of the housing projects in 'smart cities' are PMAY projects and shelters for the

---

[3] https://thewire.in/urban/smart-cities-mission-study-points-to-lack-of-focus-on-marginalised-communities

homeless are being funded by NULM. The question then is: What is the value added by the Smart Cities Mission," the study said.

Policy analysis which are part of smart city Mission:

Swachh Bharat Mission:

On October 2, 2014, Prime Minister Narendra Modi launched the Swachh Bharat Abhiyan, a mission to clean India's cities and villages. The campaign, inaugurated to coincide with Gandhi Jayanti, aims to realise its vision of 'Clean India' by October 2, 2019, the 150th birth anniversary of Mahatma Gandhi. In the months after it was launched, the campaign gained momentum with many celebrities, politicians and academic institutions organising cleanliness drives across the country.

As a reminder of how seriously this government takes this mission, the prime minister brought up the issue during his Independence Day speech as well, talking about inadequate number of toilets. A total of 31.83 lakh toilets were built between April 2014 and January 2015 under this campaign, which is 25.4% of the target for 2014-15. Over the next 5 years, the government plans to invest nearly Rs. 2 lakh crore to construct 12 crore toilets across India. But only building the /constructing the toilet is not enough but how many are in use or functioning to focus on that aspect is more important.

Mission Objectives
The national campaign, which will run till October 2, 2019, aims to:

1. Eliminate open defecation by constructing toilets for households, communities.

2. Eradicate manual scavenging.

3. Introduce modern and scientific municipal solid waste management practices.

4. Enable private sector participation in the sanitation sector.

5. Change people's attitudes towards sanitation and create awareness.

One would have presumed wrong. Even though it is arguably one of the major health hazards faced by the people in cities, in particular sewage and human waste is simply not on the agenda. Here's a telling statistic to illustrate point of the 99 cities in the 'Smart Cities 'mission which are collectively spending Rs. 2 lakh crore over five years (From 2015) ,only 2.45 of the money is going to be spent on waste management. Even storm water drainage (Which only removes short-term excess water during heavy downpours and doesn't really add to waste management) gets a higher share of 2.5%.

Of course, other schemes like the Atal Mission for Rejuvenation and Urban Transformation (AMRUT) also fund such schemes. AMRUT covers a much larger spread — 500 so-called 'mission cities' across the country. Of these, only 217 pitched for a sewage treatment plant as an AMRUT project. Of these, in the last four years, only four have been completed, according to a reply filed in the Lok Sabha.

Even these numbers are misleading. Of the 212 schemes ,as many as 189 are accounted for by just Andhra Pradesh, Rajasthan, Madhya Pradesh, Maharashtra and Gujarat. Only six other States have one or more projects under way. The rest have no plans.

Smart City Mission:
The Government of India has launched the Smart Cities Mission on 25 June 2015.
 Concept of Smart City
There is not a single definition of the smart city and various academicians have given their own definition in this regard, majority of the researchers have focused on the Information Communication Technology (ICT) aspect and argue that ICT is the core for developing a city as a smart city, but as we believe the reality is far more different what the policy makers ignore is that marketing a new concept is not the true implementation, but acceptance by the masses what makes a policy successful in true sense. Going smart or becoming smart does not depend on one aspect but it depends on other factors/parameters also. Inclusion of the lower strata of the society in a true sense means smart, what is the point in going for smart city if a large section of the society is deprived of even the basic amenities of life (Ashoutosh Shukla et.al 2017).

[4]According to another report by the Housing and Land Rights Network (HLRN), an NGO based in New Delhi, 31 pc of India's population (about 380 million) live in urban areas. By 2030, India's city dwellers are projected to reach 600 million. The number of families unable to afford a house could reach 38 million by 2030. Almost two-thirds Indian cities have informal slum settlements and more than 13 million households live in them. And more than a third of families living in such settlements do not have basic amenities like electricity, piped water and sanitation within their premises. The agrarian crisis, failed land reforms, drought and floods and lack of employment opportunities have forced the rural population to migrate to cities. While India hopes to reside in Smart Cities, the HLRN report calls it faulty arguing that the funding is discriminatory and lacks human rights indicators, especially for the low-income groups.

PMAY-Pradhan Mantri Awas Yojna (Urban):

[5]Only a little over 16 per cent of houses sanctioned under the Pradhan Mantri Awas Yojana (Urban) have been completed in the four years that the scheme has been active. A total of one crore houses for the urban poor are supposed to be constructed by 2022 under the ambitious housing scheme. In the past three years, 54 lakh homes have been sanctioned by the Ministry of Housing and Urban Affairs across all 29 states and 7 union territories, out of which only 8,84,464 homes have been completed so far. This amounts to 16.09 per cent of the sanctioned work.

Every Indian must have a house by 2022. That is the dream of Prime Minister Narendra Modi. People living on footpaths is a common sight in most metro cities. According to the government's definition, homeless or houseless people are those who live in "the open or roadside, pavements, inhume-pipes, under flyovers and staircases, or in the open in places of worship, mandaps, railway platforms etc."

---

[4] https://mediaindia.eu/social-vibes/urban-homeless-in-india

[5] https://www.businesstoday.in/current/economy-politics/only-16-percent-houses-built-in-four-years-of-urban-housing-scheme-under-pmay/story/28 2741.html

[6]According to Census 2011, there are close to 1.8 million homeless people in India and this population is declining but this is still a huge number and is more than the entire population of some countries of the world.

[7]Homelessness is an issue which leads to other perils in society and should be tackled on an urgent basis. There should be a proper policy on tackling homelessness. The Supreme Court mandated the governments to provide one shelter for 100,000 people. According to the findings of the panel appointed by the court, state governments fear that if they comply, then it will lead to an overflow of migrant workers in their states. Land allocation for shelters is another major issue. Every year, hundreds of homeless people in Northern India die due to the cold wave in winter. NGOs like Habitat for Humanity have stepped up and started working to help resolve the problem. However, because of our huge population, it needs combined efforts from the Government, NGOs as well as CSR to ensure that every citizen is provided basic shelter.

Research Method: This paper is based on secondary literature, data like, news reports, research paper, journal etc. Also survey that I did in 2017 December Pune slum area, Mumbai Slum area for toilet, sanitation recovery based on that information I will do my analysis the features, objectives of smart city mission and its ground reality.

Data Analysis and Result: Here for my data analysis I am using secondary data from different articles, websites, from different literature in the forms of tables, diagrams, like pie chart, graphs etc. As I mentioned earlier. **Table 1: Population in crore**

	2001	2011	Difference
India	102.9	121.0	18.0
Urban	74.3	83.3	9.0
Rural	28.6	37.7	9.1

---

[6] https://thecsrjournal.in/csr-the-homeless-people-in-india/

[7] https://mediaindia.eu/social-vibes/urban-homeless-in-india/

Source: Census 2001 and 2011

For the first time since Independence, the absolute increase in Population is more in urban areas that in rural areas

• Rural – Urban distribution: 68.84% & 31.16%

• Level of urbanization increased from 27.81% in 2001 Census to 31.16% in 2011 Census

• The proportion of rural population declined from 72.19% to 68.84%

From the Figure No.4 it is found that the how the levels of urban migration is increased from 1901 census to 2011.Largely India's 50% population stay in the rural area. Because India is identified as agriculture country but from some couple of year's people other than agriculture engage in non-agricultural sector to increase their employment, for getting better facilities, education, therefore people moving the urban areas.

Figure 4: Trends in Rural Urban Distribution of Population- India (in %) (1901, 1951, 2011)
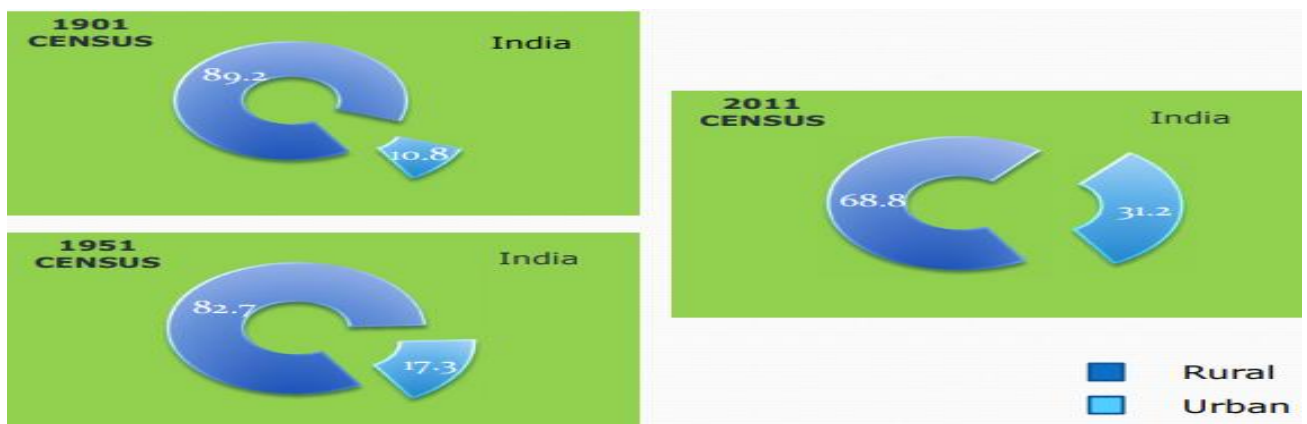
Source: Census Data

Table 2: Migrants Population:

Reason for migrations	Number of Migrants			Percentage to Migrants		
	Persons	Males	Females	Persons	Males	Females
Total migrants	98,301,342	32,896,986	65,404,356	100.0	100.0	100.0
Reason for migration : Work / Employment	14,446,224	12,373,333	2,072,891	14.7	37.6	3.2
Business	1,136,372	950,245	186,127	1.2	2.9	0.3
Education	2,915,189	2,038,675	876,514	3.0	6.2	1.3
Marriage	43,100,911	679,852	42,421,059	43.8	2.1	64.9
Moved after birth	6,577,380	3,428,673	3,148,707	6.7	10.4	4.8
Moved with households	20,608,105	8,262,143	12,345,962	21.0	25.1	18.9
Other	9,517,161	5,164,065	4,353,096	9.7	15.7	6.7

Source: Table D3, Census of India 2001

Source: Census 2011

From the Table No.2 we found that how the people from rural area to urban migrating by different purposes.In that male population found more compare to female in terms of business employment . According to 2011 census highest homeless population in Kolkata followed by Greater Mumbai (Figure No. 5). A study According to Census 2001, the conducted by Action- aid number of houseless population is International reported the number of homeless population as 1, 00,000, 60,000, 40,533, 32,254, in Delhi, Kolkata, Chennai and Mumbai respectively (Menezes, 2010 as quoted in Banerjee-Guha n.d.). In the three Indian megacities, Delhi, Mumbai, and Kolkata, the share of population living in slums is about 32.5 per cent, 54 per cent, and 33 per cent, respectively (Census 2001). Streets of Mumbai, Kolkata, Chennai, and Bangalore number of homeless children in Delhi is about 1, 00,000 (www.slumdogs.org).

Among the million plus cities of India, Kolkata accounts for the largest number of houseless population (Census 2001). Greater Mumbai ranks second, but the difference in years, while 24 per cent lived in the city for a period ranging between 20 to 60 years (Calcutta Samaritans 2003)

Figure 5: City-wise number of houseless population in million plus cities in India (census 2001)
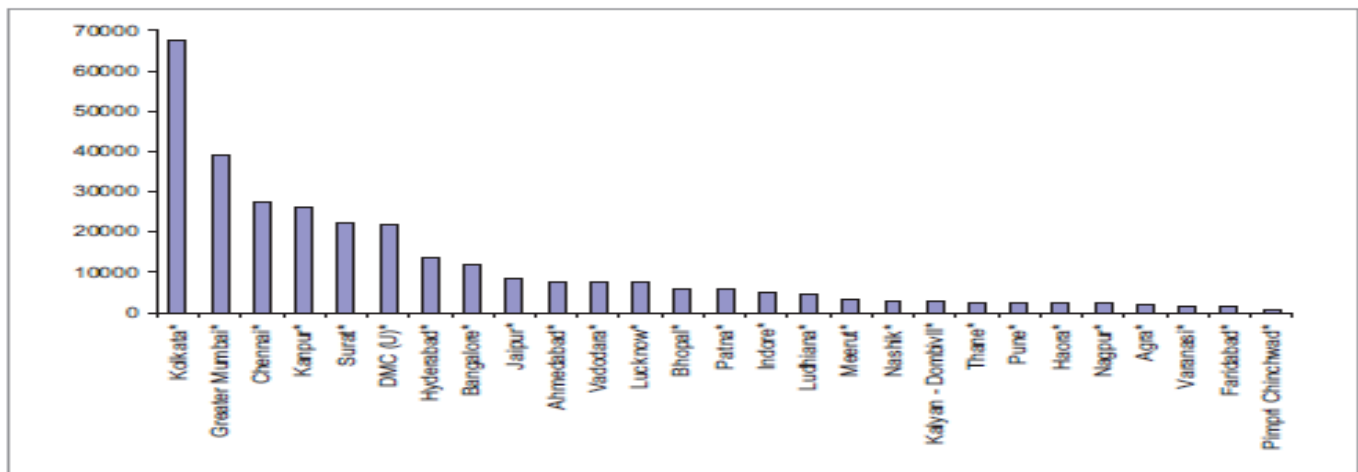
*Note: * Municipal Corporation. Source: Lok Sabha Unstarred Question No. 2564 dated 08.12.2006*

Figure 6: Highest Slum Populations

Maharashtra	118 lakh
Andhra Pradesh	102 lakh
West Bengal	64 lakh
Uttar Pradesh	62 lakh
Tamil Nadu	58 lakh
Madhya Pradesh	57 lakh
Karnataka	33 lakh
Rajasthan	21 lakh
Chhattisgarh	19 lakh
Delhi	18 lakh

Source: Indian Express 11-02-2019

Figure 7: Homeless population in India, 1961-2011
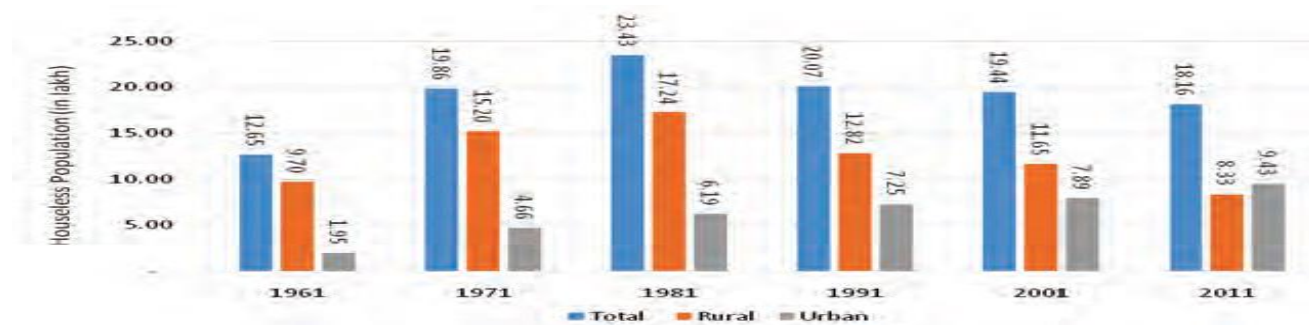
Source: Based on data from Census of India for the respective population censuses.

Moreover, these homeless populations are subjected to multiple vulnerability like poverty, lack of economic opportunities and social discrimination. They are not faceless and do not confirm to the same socio-economic background. However, over the years the government and the development agencies have ignored this fact and treated them as monolith. Therefore it is necessary to tackle the problem of homelessness and inadequate housing of specific groups as per their socio economic conditions and provide solutions that meet their requirements.

Though some studies including those based on Census 2011 (shown in Table 3) also reveal that there has been considerable increase in the Housing Stock from 18.7 crore in 2001 to 24.5 crore in 2011, indicating a growth of 30.7 percent (Report on Trend and Progress of Housing In India, 2012). However, eventually, it's not about supply of housing rather affordable housing which remains a big challenge for India's urbanization

Table 3. Increment in Housing Stock

Census Year	Households (in crore)	Housing Stock (in crore)
1991	15.1	14.7
2001	19.2	18.7
2011	24.7	24.5
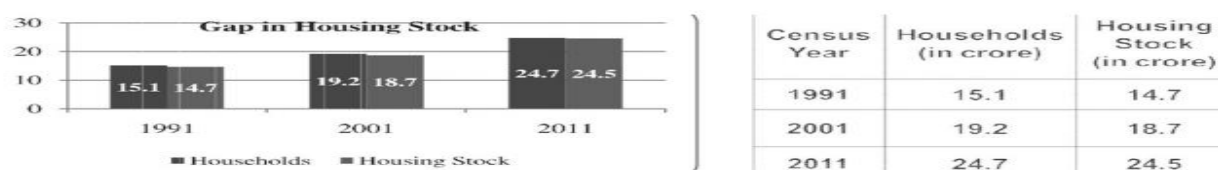
Source: Report on Trend and Progress of Housing in India, 2012, National Housing Bank. http://nhb.org.in/Publications/Report-Trend-and-Progress-of-Housing-in-India-2012.pdf

Talking about the smart city mission and urban poor then we found that smart city mission agenda is at very high level focusing more on technological aspect, skill based generation ,but if we see the scenario of the urban poor's so many times they cannot access the basic needs ,infrastructure, like shelter, water, sanitation, healthy good environment ,education, then to become a part of the smart city mission is beyond their limit they cannot afford it. Many youth we are seeing unemployed in the city like Mumbai, so before put the perspective of smart mission we really need to think about the ground reality of that cities citizen. It is the responsibility of state and local government of that cities to build the foundation of smart city by central government fund. Cities are centres of jobs and economic growth.

Table 4. Housing Shortage in Urban India

	Monthly Per Capita Expenditure	Estimated Number of Households (2007)*	Housing Shortage in million (2007)	Percentage Shortage
EWS	0 - 3,300	21.81	21.78	99.9%
LIG	3,301 - 7,300	27.57	2.89	10.5%
MIG	7,301 - 14,500	16.92	0.04	0.2%
HIG	14,501 and above			
Total Shortage		66.30	24.71	37.3%

Source: Report of the Technical Group (11th Five Year Plan: 2007-12) on Estimation of Urban Housing Shortage.http://mhfcindia.com/Affordable%20Housing%20India-1.pdf

Urban Slum Sanitation Issues:

Survey that I conducted in December 2017 during my job time, in Pune which is declared as a smart city. At their during survey time it was found that toilets which are constructed under swachh Bharat mission was in very poor condition, many toilets are become a storage, many people are not using it because of poor drainage connection, scarcity of water, and they always tell their problem to the Councilor, Municipality officer but no one want to hear that, everyone ignores it. During the survey it is found that around 85 % people not satisfied to the policy Swachh Bharat mission. Also not using the toilets because of 1)drainage issues means no drainage line is available 2)Toilet construction not according to their convenience and it is not completed yet.3)Because of scarcity of water, most of the slum areas don't have their individual water tabs.

In slum areas we know there is public toilets available but if we see the condition of that toilets then that toilets are so dirty not properly cleaned, as well as talking in terms of women safety then at night women, girls don't feel safe ,also many times in day time also women feel shameful as like we say everyone has right to get /access clean ,safe sanitation facilities but very sadly we to say and see the country like India and declared smart cities there like Mumbai, Delhi, Thane, Pune etc. We found such condition it is very embarrassing in cities which are declared as a smart city under smart city mission

Picture 1: During the SBM toilet survey of Pune Slum in Yerwada Ward "Jyotiba Phule Vasahat" which are incomplete and improperly built up and not have drainage line in December 2017

Under this mission either government contractor come and built the toilet in free of cost or from government beneficiaries get the 12,000 (Twelve thousand rupees) in instalment for construction of individual toilet. But in both the cases people faces the issues,1)In first case government contractor not build the toilet according to people's convince and sometimes they ran away in between the half construction. And never come back.2) Talking about the second case then it is found that people said 12,000Rs. Is very less amount for construction of toilet, and they cannot put money from their pocket to build the toilet. They cannot afford it. After 74th amendment it is responsibility of the urban local body (Municipalities) to provide the all basic facilities to citizens like water, sanitation, electricity, waste management. But because of daily migration, large number of slum increasing day by day, people are migrate from rural to urban and stay, settled mostly in urban slum areas only, therefore this migrants mostly stay on rent, so they face the tenure security issues, land right issues, food security, issues, issues of

accessing public institution like government hospital, PDS (Public Distribution System) /Ration shops etc. And these all issues impacting on the human resource health, capacity and it is affected on the country's growth.

Water issue: According to the Ministry of Urban Development report (2011) on Household Amenities with respect to Drinking Water Sources and Latrine Facilities in Urban India so far only 72% urban population has water available in its premises while just 32% population receives treated potable water. The status of sanitation is even worse. 18.6% urban household has no access to any sort of sanitation facilities in their houses. Open defecation is a common sight both in the rural and urban areas. The National Urban sanitation Policy (NUSP), 2010 of the Government of India highlights the demand and deficit gap in the area of urban sanitation. According to the report, 12.04 million (7.87 %) Urban households do not have access to latrines and therefore people defecate in the open. On the other hand only 5.48 million (8.13%) Urban households have access to community latrines while 13.4 million households (19.49%) use shared latrines. Besides, 12.47 million (18.5%) households do not have drainage network and 26.83 million (39.8%) households are connected to open drains. This makes the situation scary. Figure 3 and 4 presents a glimpse of the status of water and sanitation facility in urban India.

The fact that water is increasingly becoming the biggest challenge faced by most Indian cities today. According to NITI Aayog's composite water management index report released last year ,75% of households do not have access to drinking water on premises,70% household lack piped water(portable or otherwise)and as many as 20 cities will effectively use up all available water resource by 2020.

Figure 8: Sources of Drinking Water in India

Source: Council on Energy, Water & Environment, 2013 http://ceew.in/pdf/CEEW-Veolia-Urban-Water-and-Sanitation-in-India-Nov13.pdf
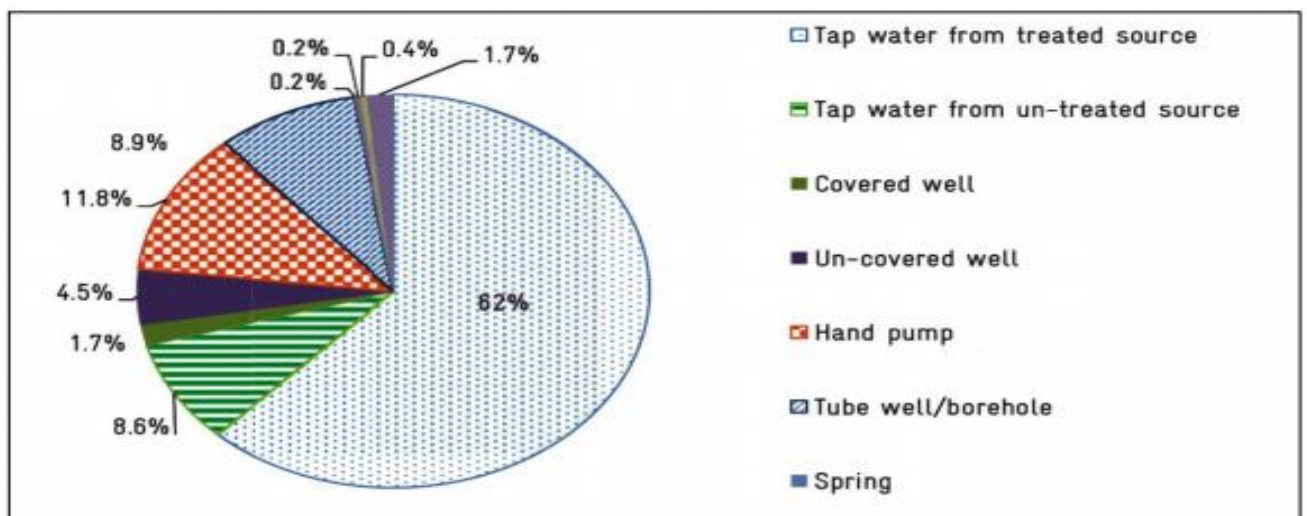
Figure 9: CEEW-Veolia-Urban-Water-and-Open Defecation per Square Kilometer Sanitation-in India
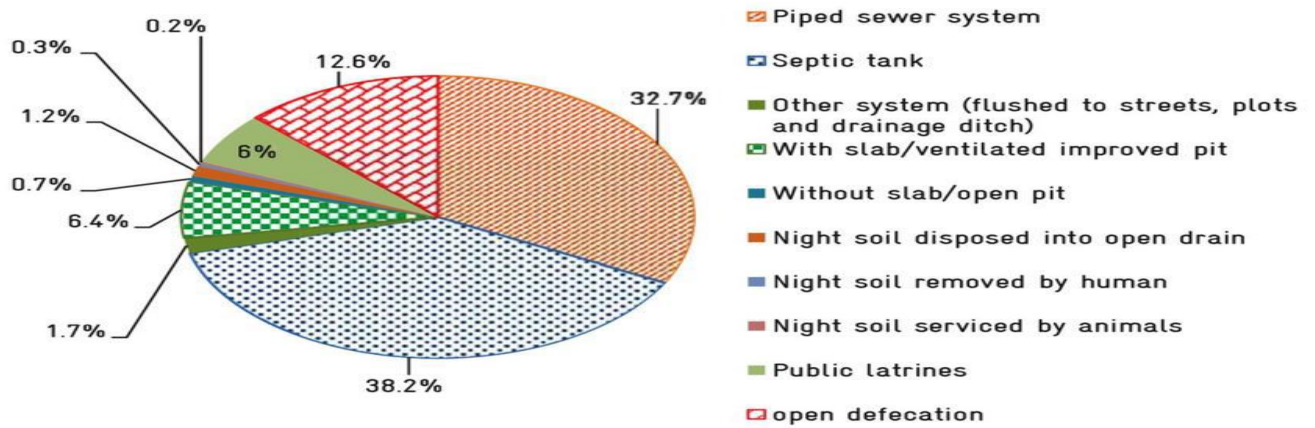
Source: Council on Energy, Water & Environment, 2013 http://ceew.in/pdf/

Figure 10: Lack Access Of Toilet: Top 5 Countries

Source: https://thewire.in/health/732-million-india-tops-list-number-people-without-access-toilets-report
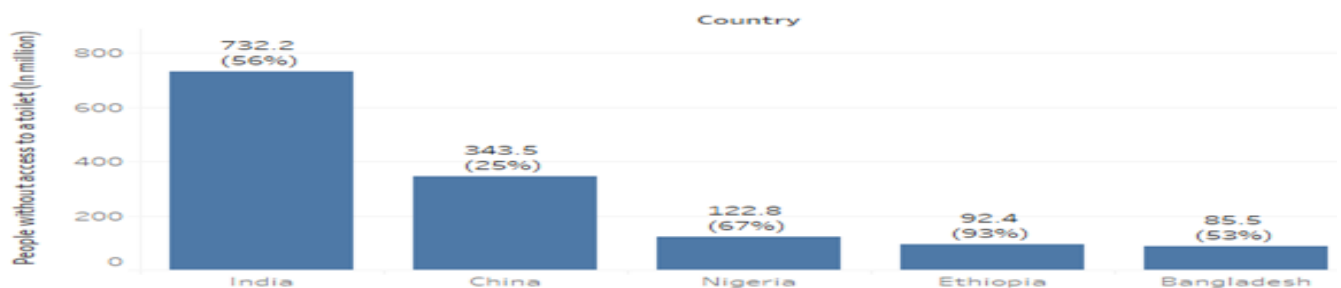
Figure 11: Open Defecation rates among adult latrine owners: Rates recorded in 2018

Smart City Mission in India: Is fulfilling the need, dreams of human resources, common man?
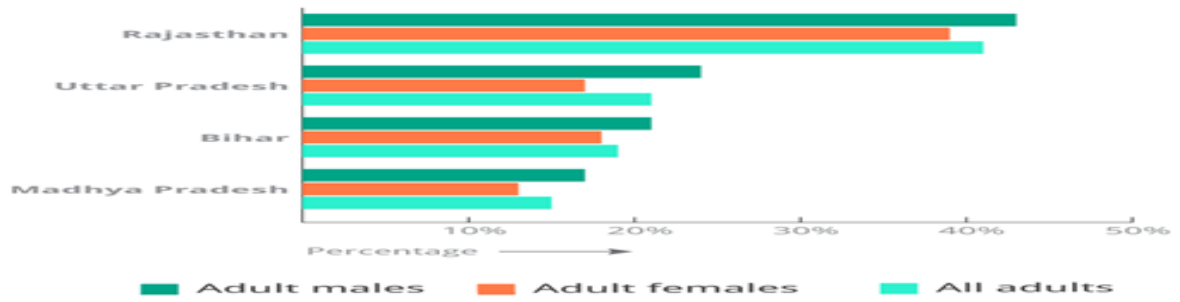
By seeing the presented sanitation data as well as framework of sanitation we can see that after implementation of Swachh Bharat mission policy also there is not too much changes found in the India' sanitation, toilet usage. There are lots of reason behind that to not use of toilets one is that people's mentality, their mindset to go to open defecation, cultural issue many people don't want the toilet inside the house, Rented house, illegal settlement like in slum area not have permission to build pucca houses (Made by cement, concrete, brick) mostly in Mumbai slums, no sewerage facility, no local government support etc. Therefore to change the mindset of people to usage of the toilet, to do awareness in between them is no only responsibility of the local governments, NGO's but also the citizens of those areas who know about the importance of it as well as with the help of school children Then only the people mindsets to see toward sanitation, for its usage will change.

Conclusion:

The reason of faster growth rate of cities in comparison to rural areas is the migration of peoples from rural areas in search of livelihood and better education facilities to their children. While based the conducted survey and secondary data show that these migrating people are end becoming the daily casual wage earners or rickshaw puller, street vendors which are belonging to unorganized sector and earning a very small amount to meet two end meals but they are also an human resource contributor of country's economy but not any special scheme for them. Student who come by some aspiration sometimes because of poor infrastructure, food facility and poor family background sometimes they also have to struggle a lot, they cannot afford high

infrastructural facilities rented flats, it impacted on the health ,many are victimized of mental health because of that many times they cannot achieve their dreams.

It is also found that due to their identity crisis they are also not in the position to avail the benefit of subsidized scheme launched by government for these classes. Illiteracy and low level of income generate a vicious circle in their life and only remain to the curse for cities even of essential contribution made by them in the economic infrastructure of the cities they are only the actual human resource of the cities, country's economic growth. 21st century brought with new global trend of 'sustainable urban development'. Can't be achieved without taking concern for these classes of peoples. By analyses to the living standard of migrating people indicate a scientific understanding to develop smart cities is very integrative with respect to discussion on the topic smart city. As per the its objective, goals it is not implementing on ground, still majority of urban poor struggling for getting the basic needs and in that around 75% we found migrant to migrate in the ray of hope of livelihood. Critics of the idea of smart city believe that cities have always been smart and their intelligence resides in the people (Greenfield, 2013). The semantics of smart cities however explain different approaches of looking at them from different perspectives viz. resilience, business, and growth of citizens or services within an urban environment among other.

References:

- Ahluwalia, I. J., R. Kanburand P. K. Mohanty"Challenges of Urbanization in India. "Urbanization in India.Eds.Ahluwalia, I.J., R. Kanbur, and P. K. Mohanty. New Delhi, Sage India, 2014

- Ashutosh Shukla et.al (2017) A Pilot Study on Enigma of Smart Cities and Urban Poor Migrants .International Journal for Research in Engineering Application & Management (IJREAM) *ISSN : 2454-9150* Vol-03, Issue-08, Nov 2017

- Banerjee-Guha, S. n.d. 'Homeless in Neoliberal Cities: View from Mumbai', http://www.udri.org/udri/MumbaiReader10/03%20Swapna%20BanerjeeGuha%20%20Homeless%20in%20Neoliberal%20Cities,%20View%20From%20Mumbai.pdf (accessed on August 20, 2013)

- Bholey Mihir (2016) India's Urban Challenges and Smart Cities: A Contemporary Study ©Scholedge International Journal of Business Policy & Governance (2394-3351), Vol.03, Issue 03 (2016) pg. 17-38. Published by: Scholedge R&D Centre [http://www.thescholedge.org/journals/]

- Chourabi. H., Nam., et al. Understanding Smart Cities: An Integrative Framework. 14th Hawaii International Conference on Systems Science, Hawaii. 2012

- Datta, A (2015) New urban utopias of postcolonial India: 'Entrepreneurial urbanization' in Dholera smart city, Gujarat. Dialogues in Human Geography, 5 (1). 3- 22. ISSN 2043- 8206

- Florida, R. 2004. The great creative class debate: Revenge of the squelchers. The Next American City, no 5 July

- Greenfield, A., This is Part I of The city is here for you to use: 'Against the smart city'. New York Do. 2013

- Kanter, R. 1995. World class: Thriving locally in the global economy. New York: Simon & Schuster

- https://www.geospatialworld.net/blogs/role-of-citizens-in-building-smart-city/

- Peter Hall, and Ulrich Pfeiffer (2000), Urban Future 21: A Global Agenda for Twenty-first Century Cities, Published by Routledge, ISBN 10: 0415240751 ISBN 13: 9780415240758

- Report on Trend and Progress of Housing In India, 2012. http://nhb.org.in/Publications/ReportTrend-and-Progress-of-Housing-in-India-2012.pdf

- Roy, S. (2016). The Smart City Paradigm in India: Issues and Challenges of Sustainability and Inclusiveness. *Social Scientist, 44*(5/6), 29-48. Retrieved from http://ezproxy.tiss.edu:2067/stable/24890283

- Sugam, R. and Arunabha Ghosh. Urban Water and Sanitation in India: Multi-stakeholders Dialogue for Systemic Solutions. Delhi, Council on Energy, Water & Environment, 2013. http://ceew.in/pdf/CEEW-Veolia-Urban-Water-and-Sanitation-in-India-Nov13.pdf https://doi.org/10.1177/2043820614565748

- Sattar Sanjukta (2014) Homelessness In India Volume 15 No.1 ISSN 2347 – 4912

- https://thewire.in/health/732-million-india-tops-list-number-people-without-access-toilets-report

Smart Governance Approach for Disaster Readiness using Recent Technologies

Deepak Choksi
MIM Student
Jamnalal Bajaj Institute of Management Studies

Prof. Venugopal Iyengar
Professor
M.Sc; DIRM; DTT; DCS;
CISA, CRISC, CISSP
Certified Global Assessor

Abstract:

Smart Governance is the use of best and the apt technologies, be it man-made or natural disaster that causes damage to life and property. *The pressure on the earth's resources* caused by increased population has resulted in increased vulnerability of human and their infrastructure to the *natural hazards*. This necessitates a dynamic equilibrium between these forces, where the scientific and technological development has a major role. Recurring occurrences of earthquakes, floods, landslides and tsunamis need to be studied using today's advanced technology to find effective preventive measures. Use of current technologies such as IOT, ML, Geo-spatial, etc. can help the disaster management better through predictive engineering/analytics to detect disaster prone areas, plan detective-corrective-preventive measures and safe alternatives. Post-disaster satellite data acquisition helps in disaster recovery, damage claim process and fast compensation settlement. Various satellites and sensors on-board provide with numerous possibilities of analysing the data.

Integration of IOT, Cloud computing, remote sensing with GIS, use of machine learning and web technology makes it an extremely powerful tool to identify indicators of potential disasters. The paper describes the technological framework for smart governance using technologies of ML, Geo-spatial and IOT. The framework proposed is mainly divided in three parts. The first part talks about connecting the IOT devices to cloud platform through gateway. The second part of the framework describes the about the use Geo-spatial technologies and machine learning algorithm to build a data sets which can help predict, monitor and mitigate disaster situation. The third part of the framework talks about visualization, its importance and features that a visualization tool should have for effective decision-making.

Keywords:

1. Introduction:

As per UN report, over the past two decades, the number of recorded disasters has doubled from approximately 200 to over 400 per year. Nine out of every ten of these disasters have been climate related. Current projections regarding climate change suggest this trend is set to continue and that weather related hazard events would become more frequent and more volatile.

Due to increase in urbanization, there is a need for cities is to get smarter to handle the upcoming issues related to large-scale urbanisation and disasters is one of such issue. It is exceedingly important to carry out risk assessments and apply modern day technological inventions such as IoT sensors, Machine-learning techniques, geospatial technologies to develop an exceptional Business Continuity Plan (BCP). Concrete efforts are required to deploy efficient disaster warning systems and watershed management programmes to assure our future cities continue to function smoothly despite serious challenges. By leveraging the benefits of big data, such as learning algorithms, IoT sensors from disaster sites and satellite image review, the local government could determine when to evacuate citizens and initiate disaster preparation.

The increased frequency of disasters across the world clearly shows a need of preparedness to address disaster in various stages may it be mitigation, response or recovery. The disaster preparedness requires timely, accurate and precise approach to address the situation. With the world moving towards making the cities smarter, the factor of smart governance using today's technologies in case of disasters needs to be addressed. As with the better framework of governance, the losses of human lives can be reduced.

The paper talks on to defining a technological and conceptual framework for smart governance in case of disasters for smart city using recent technologies of Geospatial, Machine Learning and IOT.

2. Technical preliminaries:

2.1 Geospatial tools for disaster management

Geospatial technologies have a key role to play when it comes to enabling smart governance. What it really means is that the geospatial technologies can be applied across the subsystems

such as energy, water, transportation, public safety, citizen services, city governance, healthcare, education, etc. The ultimate aim is to not only improve the efficiency in managing the city infrastructure, but also enable collaboration during the planning, construction, monitoring and management of the city infrastructure.

Geospatial for smart cities – The Framework

When we look from an ICT and geospatial perspective, the framework would consist of 4 main components (Figure 1.).

1)   Sensing Layer – to continuously monitor the parameters of city subsystems, that consists of a network of machines, sensors, IoT devices and human sensors

2)   Data Layer – Consisting of federated or desperate databases related to the functioning of urban bodies and municipalities along with the departments supporting the city infrastructure like transportation, utilities etc.

3)   Business Layer – Consisting of models related to analytics, visualization, business logic, semantics; data catalogues, metadata etc.

4)   Application Layer – Consisting of various applications used by citizens, municipal staff and administrators related to various departments of the smart city
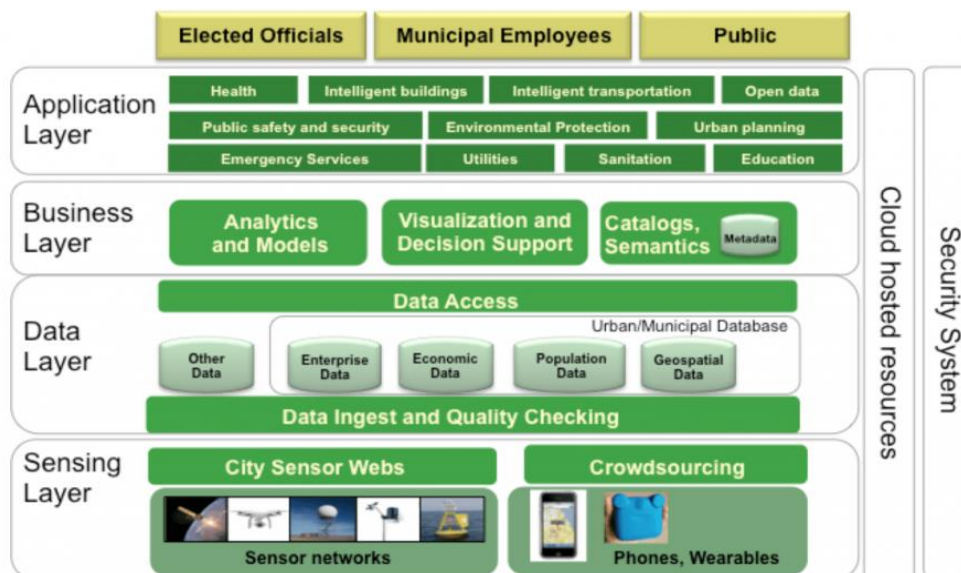
Figure 1. Smart City Enterprise framework and Enterprise Components as defined by Open Geospatial Consortium (OGC)

Geospatial technology tools like Geographic Information Systems (GIS) and Remote sensing (RS) support all aspects of disaster management. GIS and RS are essential as effective preparedness, communication and training tool for disaster management. Disaster planning can be very powerful when modelling is incorporated into GIS. Most potential disasters can be modelled. Modelling allows disaster managers to view the scope of a disaster, where the damage may be the greatest, what lives and property at highest risk, and what response resources are required and where GIS can play a very important role in this exercise. The specific GIS applications in the field of Risk the assessment are:

– Hazard Mapping
– Threat Maps
– Disaster Management
– Records Management

2.2 Machine Learning techniques for Disaster Management

Machine learning is a subfield of computer science, and is a type of Artificial Intelligence (AI) that provides machines with the ability to learn without explicit programming. Machine learning evolved from pattern recognition and computational learning theory. Here, frequently applied machine learning algorithms for smart data analysis which can be used for various disaster management applications are listed.

A learning algorithm takes a set of samples as an input named a training set. In general, there exist three main categories of learning: supervised, unsupervised, and reinforcement. In an informal sense, in supervised learning, the training set consists of samples of input vectors together with their corresponding appropriate target vectors, also known as labels. In unsupervised learning, no labels are required for the training set. Reinforcement learning deals with the problem of learning the appropriate action or sequence of actions to be taken for a given situation in order to maximize payoff. The study focuses on supervised and unsupervised learning since they have been and are still widely applied in IoT smart data analysis. The objective of supervised learning is to learn how to predict the appropriate output vector for a given input vector.

Applications where the target labels consist of a finite number of discrete categories are known as classification tasks.

Defining the objective of unsupervised learning is difficult. One of the major objectives is to identify sensible clusters of similar samples within the input data, known as clustering. Moreover, the objective may be the discovery of a useful internal representation of the input data by pre-processing the original input variable in order to transfer it into a new variable space. This pre-processing stage can significantly improve the result of the subsequent machine learning algorithm and is named feature extraction.

The frequently applied machine learning algorithms for smart data analysis and IoT use cases are shown in Table 1 and Table 2 accordingly.

Table 1. Overview of frequently used machine learning algorithms for smart data analysis

Machine learning algorithm	Data processing tasks
K-Nearest Neighbors	Classification
Naive Bayes	Classification
Support Vector Machine	Classification
Linear Regression	Regression
Support Vector Regression	Regression
Classification and Regression Trees	Classification/ Regression
Random Forests	Classification/ Regression
Bagging	Classification/ Regression
K-Means	Clustering
Density-Based Spatial Clustering of Applications with Noise	Clustering
Principal Component Analysis	Feature extraction
Canonical Correlation Analysis	Feature extraction
Feed Forward Neural Network	Regression/ Classification/ Clustering/Feature extraction
One-class Support Vector Machines	Anomaly detection

Table 2 Overview of applying machine learning algorithms to Internet of Things use cases

Machine learning Algorithm	IoT, Smart City use cases	Metric to Optimize
Classification	Smart Traffic	Traffic Prediction, Increase Data Abbreviation
Clustering	Smart Traffic, Smart Health	Traffic Prediction, Increase Data Abbreviation
Anomaly Detection	Smart Traffic, Smart Environment	Traffic Prediction, Increase Data Abbreviation, Finding Anomalies in Power Dataset
Support Vector Regression	Smart Weather Prediction	Forecasting
Linear Regression	Economics, Market analysis, Energy usage	Real Time Prediction, Reducing Amount of Data
Classification and Regression Trees	Smart Citizens	Real Time Prediction, Passengers Travel Pattern
Support Vector Machine	All Use Cases	Classify Data, Real Time Prediction
K-Nearest Neighbors	Smart Citizen	Passengers' Travel Pattern, Efficiency of the Learned Metric
Naive Bayes	Smart Agriculture, Smart Citizen	Food Safety, Passengers Travel Pattern, Estimate the Numbers of Nodes
K-Means	Smart City, Smart Home, Smart Citizen, Controlling Air and Traffic	Outlier Detection, fraud detection, Analyze Small Data set, Forecasting Energy Consumption, Passengers Travel Pattern, Stream Data Analyze
Density-Based Clustering	Smart Citizen	Labeling Data, Fraud Detection, Passengers Travel Pattern
Feed Forward Neural Network	Smart Health	Reducing Energy Consumption, Forecast the States of Elements, Overcome the Redundant Data and Information
Principal Component Analysis	Monitoring Public Places	Fault Detection
Canonical Correlation Analysis	Monitoring Public Places	Fault Detection
One-class Support Vector Machines	Smart Human Activity Control	Fraud Detection, Emerging Anomalies in the data

2.3 IOT for disaster management

The purpose of Internet of Things (IoT) is to develop a smarter environment and a simplified life-style by saving time, energy, and money. The enormous investments and many studies running on IoT have made IoT a growing trend in recent years. IoT consists of a set of connected devices that can transfer data among one another in order to optimize their performance; these actions occur automatically and without human awareness or input. IoT includes four main components: 1) sensors, 2) processing networks, 3) data analysis data, and 4) system monitoring. The most recent advances made in IoT began when RFID tags were put into use more frequently, lower cost sensors became more available, web technology developed, and communication protocols changed. The IoT is integrated with various technologies, and connectivity is a necessary and sufficient condition for it to function. Therefore, communication protocols are constituents of this technology that should be enhanced. In IoT, communication protocols can be divided into three major components:

(1) Device to Device (D2D): This type of communication enables communication between nearby mobile phones. This represents the next generation of cellular networks.

(2) Device to Server (D2S): in this type of communication device, all the data is sent to the servers, which can be close or far from the devices. This type of communication is mostly applied to cloud processing.

(3) Server to Server (S2S): in this type of communication, servers transmit data between each other. This type of communication is mostly applied for cellular networks.

Processing and preparing data for these communications is a critical challenge. To respond to this challenge, different kinds of data processing, such as analytics at the edge, stream analysis, and IoT analysis at the database, must be applied. The decision to apply any of the mentioned processes depends on the particular application and its needs. Fog and cloud processing are two analytical methods adopted for processing and preparing data before transferring it to other things. The whole task of IoT is summarized as follows: First, sensors and IoT devices collect information from the environment. Next, knowledge is extracted from the raw data. Then, data is ready for transferring to other objects, devices, or servers through the Internet.

3. Smart Governance framework for Disaster management

3.1 Technological framework

During any disaster or an emergency event or even when the city is running normally, the integration of ground reality into a technological setup is very important, for effective decision making, monitoring and planning. The sections discusses, a proposed framework of a system by integrating the IOT, EDGE, web GIS, spatial decision support system using machine learning, and other related technologies.

For developing a framework that support IOT system. The main features that an IOT platform must achieve are

- Device integration
- Networking
- Device management
- Security
- Protocol for data collection
- Analytics
- Support for Visualization

Based on the above mentioned features figure 2 shows the stack for the IOT platform architecture:
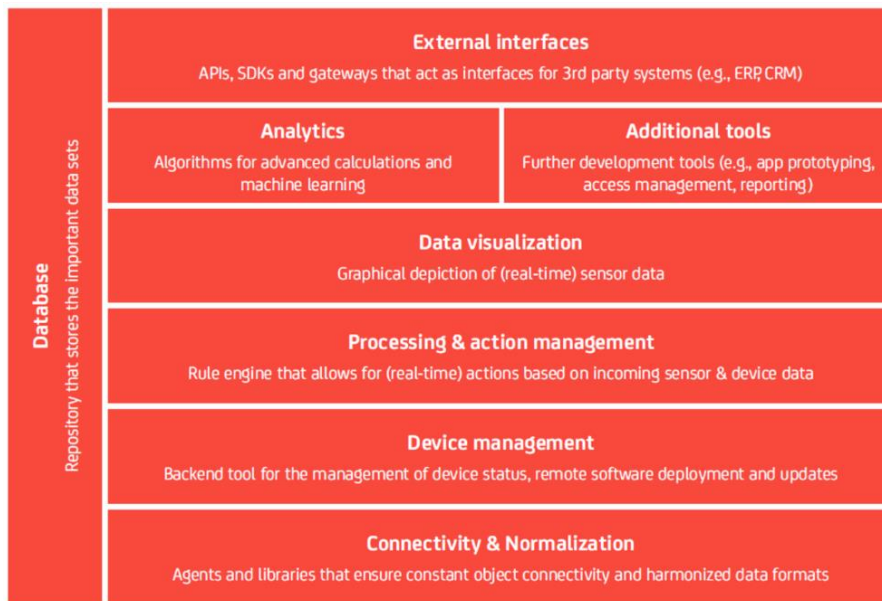
Figure 2. Main components of an IoT Application Enablement Platform

As per the IOT architecture, technological framework is majorly divided in three parts (Figure 2):

1. Edge: Embedded technology at the "edge" that senses, acquires & disseminates data.

2. IoT platform: Accepts, ingests, stores, analyses and shares intelligence extracted from the data.

3. Enterprise: Applications & processes that act upon the intelligence as a result of analytic results.

Figure 3. IOT based technological architecture blueprint

Figure 3. displays the blueprint of IOT based technological architecture which be understood as an integrated solution that senses & collects data from devices at the edge, analyses that data and let the organization take decision. The details working of the architecture can be better understood based on the Figure 4.
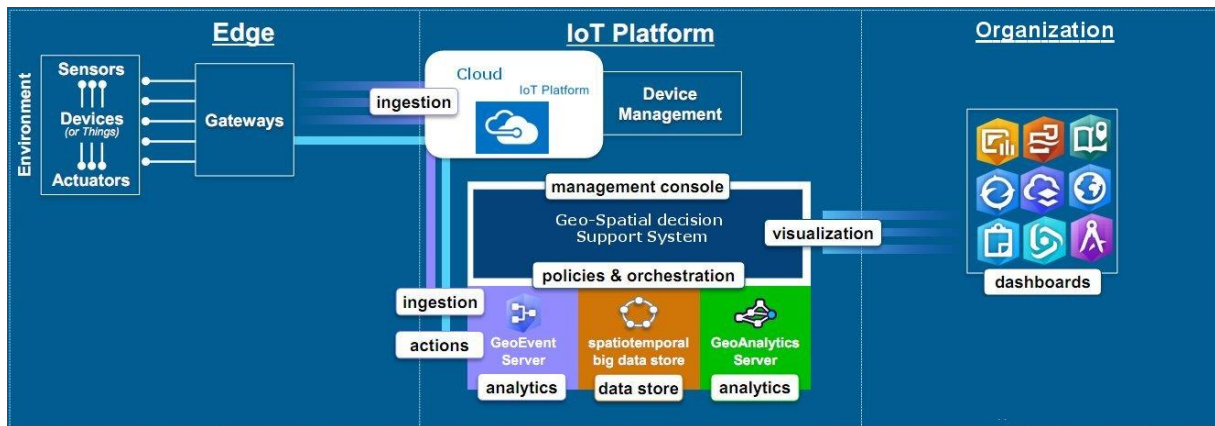
Figure 4. IOT based technological architecture

The Figure 4 depicts the architecture divided in three parts; let us see each part in detail

3.1.1 Edge

The first part is about collecting the field data through various sensors, devices and actuators, the collected data is then transferred to a cloud environment. Although there are various ways to send the data collected by IOT devices to cloud using Ethernet, Mobile phone network, Wi-Fi Router, Long distance radio, Mobile phone using GPRS/GSM/ wired etc. technique. However, with the proposed architecture proposes to use data transfer using edge technology. Edge computing is a distributed open architecture that features decentralized processing power enabling mobile computing and Internet of Things (IOT). In edge computing, device processes the data itself, or by a local computer of a server rather than being transmitted to data center.

An edge computing solution typically sits between the IoT devices and the IoT cloud platform. The main features of an edge solution focus on connecting the devices, locally processing and managing the data, and moving data to the cloud platform for further data analytics and integration with backend services.

With an explosion in the amount of data being generated by digital devices. The traditional model of processing and storing all data in the cloud is becoming too costly and often too slow to meet the requirements of the end user. A key consideration for edge computing is to overcome network latency. If the IoT application requires sub-second response time, then waiting for a request to the cloud may become an issue. The processing of a fire by a sensor and the processing of the decision to turn off electricity cannot be delayed by a network interaction. A delayed response time may cause serious human harm or damage. This can't be

delivered by regular communication with the cloud. Moving the processing of the sensor data to an edge gateway is a way to avoid network latency and achieve a desired response time.

Cost is also a driving factor for edge computing. The bulk of data that is generated by sensors and actuators is likely not relevant for the IoT application. The fact a temperature sensor reports a 20°C reading every second might not be interesting until the sensor reports a 40°C reading. Edge computing allows for the data to be filtered and processed before it is sent to the cloud. This reduces the network cost of data transmission. It also reduces the cloud storage and processing cost of data that is not relevant to the application.

Deploying analytics algorithms or machine learning models to an edge gateway allows for the computational processing to be performed on smaller data sets. Edge computing will often be more computational efficient to process this type of data.

Many digital products need to be autonomous in their operation. This allows them to achieve the required safety, reliability, and user experience needs. Edge computing provides the ability to have local storage and local computation. Thereby, the device can continue to function even if it is not connected to the network.

The edge gateway connected to sensors and actuators will follow a specific rules which will based on a simple rule engine available for the automatic execution of predefined business rules, local monitoring, and control of various aspects on the edge. Rules typically have the following form:
• ON - something happens (window state changed)
• IF - conditions are satisfied (window. State == open state)
• THEN - do the task (light. State = off)

3.1.2 IoT Platform

This part of the architecture accepts, ingests, stores, analyses and shares intelligence extracted from the data supplied through the edge gateway. The IoT platform is a software (suite and/or platform as a service [PaaS]), that facilitates the operations involving IOT endpoints and enterprise resources. The platform provisions and controls IOT endpoints, monitors event streams, enables specialized analysis and application development and integrates with back-end IT systems (Gartner 2016).

The data gets ingested into the cloud IOT platform, the suggestion cloud IOT platform is because cloud computing with IOT work towards increasing the efficiency of everyday tasks and both have a complementary relationship. On one hand, IoT generates lots of data while on the other hand, cloud computing paves way for this data to travel. To understand relationship between IoT and cloud, here is a Figure 5 that will let you know how they fit into each other.

Parameter	Internet of things	Cloud computing
Big Data	Acts as a source for big data	Acts as a way or a means to manage big data
Reachability	Very limited	Far spread, wide
Storage	Limited or almost none	Large, virtually never ending
Role of Internet	Acts as a point of convergence	Acts as a means for delivering services
Computing capabilities	Limited	Virtually unlimited
Components	Runs on hardware components	Runs on virtual machines which imitate hardware components

Figure 5. Relationship between IoT and cloud (https://blog.resellerclub.com/what-is-the-role-of-cloud-computing-in-iot/)

3.1.2.1 Geo-spatial data analysis task

In general, there are three fundamental tasks of statistical learning from data: classification, regression, and probability density modelling. Another two basic problems are of great importance: monitoring networks design/redesign and assimilation/integration of data and science-based models, e.g. physical pollution diffusion models, meteorological models, etc.

Some typical geospatial data analysis problems and corresponding approaches/methods are:

• Spatial predictions/interpolations: deterministic interpolators, geo-statistics, machine learning. Spatial predictions in a high dimensional geo-feature space –machine learning.
• Modelling and spatial predictions with uncertainties (e.g. taking into account measurement errors): geo-statistics, machine learning.
• Multivariate joint predictions of several variables: geo-statistics (co-kriging), machine learning (multi-task learning).
• Risk mapping – modelling of local probability density function: geo-statistics (indicator kriging, simulations), machine learning (Mixture Density Networks).

• Modelling of spatial variability and uncertainty, conditional simulations (spatial Monte Carlo simulations): geo-statistical conditional stochastic simulations (sequential Gaussian simulations, indicator simulations, etc.).

• Optimisation of monitoring networks (spatial sampling design/redesign): space filling models, geo-statistics (kriging, simulations), machine learning (Support Vector Machines). The basic idea of using Support Vector Machines for spatial sampling design is that only support vectors are important measurement points contributing to the solution of mapping problem [Vapnik, 1999].

• Data mining in a high dimensional geo-feature space: machine learning (supervised and unsupervised learning algorithms).

The generic methodology of spatial data analysis and modelling is presented in Figure 19. As usually, exploratory spatial data analysis (ESDA) is a first step of the study. Quantitative analysis of monitoring networks using topological, statistical and fractal measures helps to describe data representatively, to remove biases in modelling distributions and to select declustering procedures [Kanevski and Maignan 2004].

The variography (well known geostatistical tool to analyse and to model anisotropic spatial correlations) is proposed to be used both at the phase of exploratory spatial data analysis and at the evaluation of the results. Despite of a variogram is a linear two-point statistics, like auto-covariance function for time series, it characterises the presence of spatial structures, anisotropy and scales [Chiles and Delfiner 1999; Cressie 1993]. Variogram analysis of the residuals, in addition to the traditional statistical analysis, is an important step in understanding the quality of modelling results: variograms of the residuals should demonstrate pure nugget effect (i.e. no spatial structures) on training and validation data sets. Variography can be used as an independent tool during tuning of machine learning hyper-parameters. In this case the cost function can be modified taking into account the difference between desired theoretical variogram based on data and a variogram based on ML results.

In fact, hybrid models (machine learning + geostatistics), e.g. Neural Network Residual Kriging/Co-kriging (NNRK/NNRCK), have proven their efficiency in many real-world mapping problems [Kanevski and Maignan, 2004]. They can overcome some difficulties of both approaches: in geostatistics – problem of spatial stationarity; in machine learning - interpretability. Moreover, such models are well adapted to multi-scale mapping of highly

variable spatial data. Currently, new methodology which takes into account several aspects of geospatial data mentioned above and geographical/spatial constraints (geomorphology, networks, DEM, GIS thematic layers. etc.) is under development (www.geokernels.org).
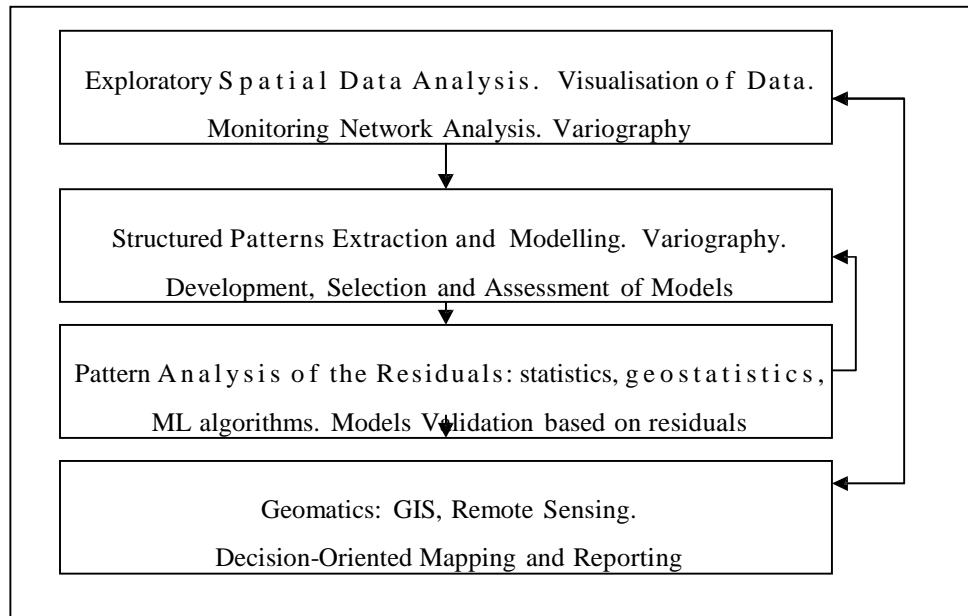
Figure 6. Spatial data analysis and predictions: generic methodology

3.1.3 Organization

The last part of the architecture deals with the visualizations of the data generated by analytics using Geo-spatial decision support system. The architecture mentions the need of dashboard for the organization for effective, timely and user friendly data display both Geo-spatial as well as data collected by various IOT's. The dashboard should have facility to display reports and also bring in the insight of the data for faster decision making in case of disaster.

The typical feature and analytic ability that the dashboard should possess are:

Analytic Features

- OLAP & Self-Service Analysis & Reports
- Simple Drag-and-Drop Approach
- Analytic Report - Scheduled Subscriptions
- Analytic Report - Export to PDF/Excel files
- Share Analytic Reports with Authorized Users
- Analytic Analysis on the Dashboards
- Analytic Analysis on Mobile Devices
- Analytic Report team Collaboration
- Integrate Analytic Reports to Your App

Dashboard Features

- Simple Dashboard creation

- Use your SQL/OLAP/ODBC/CSV data sources

- Dashboard OLAP Analytic Features

- Share Dashboards with Authorized Users

- Dashboard Team Collaboration

- Dashboards on Mobile Devices

- Integrate Dashboards to App

4. Conclusion:

The technological solution presented in this study can be used in many areas where integration of real/near-real time data is important for any decision making and planning exercise in IOT and GIS domain. The technical architecture demonstrated for disaster/emergency management which is a very effective tool for a control room of any disaster/emergency event where the decision makers can monitor the emergency situation in real time mode in a GIS environment.

IoT represents the best way to make a city smart. IoT can applied in multiple scenarios such as monitoring of present scenario, environmental monitoring e.g. Gas concentration, Water level for lakes or soil humidity, waste management, smart parking, reducing CO_2 footprint, or autonomous driving. Achieving such goals needs a tremendous number of connected objects.

Machine learning algorithms are extremely powerful adaptive, nonlinear, universal tools. They are successfully used in many geo and environmental applications. In principle, they can be efficiently used at all stages of environmental data mining: exploratory spatial data analysis, recognition and modelling of spatio-temporal patterns, decision-oriented mapping.

5. References:

Harish Chandra Karnatak, et al., 2012 Spatial mashup technology and real time data integration in geo-web application using open source GIS – a case study for disaster management, Geocarto International, 27:6, 499-514, DOI: 10.1080/10106049.2011.650651

José Miguel López-Quiles, et al., 2018 Smart Technologies for Smart Governments: A Review of Technological Tools in Smart Cities

Nuno Vasco Lopes, 2017 Smart Governance: a Key Factor for Smart Cities Implementation, 2017 IEEE International Conference on Smart Grid and Smart Cities

Badis HAMMI, et al., Internet of Things (IoT) Technologies for Smart Cities, IET Research Journals, ISSN 1751-8644, doi: 0000000000

Mahdavinejad, Mohammad Saeid, et al. "Machine learning for Internet of Things data analysis: A survey." Digital Communications and Networks 4.3 (2018): 161-175.

Mukhopadhyay, Biswajit, and Buddhadev Bhattacherjee. "Use of information technology in emergency and disaster management." American Journal of Environmental Protection 4.2 (2015): 101-104.

National Research Council. Improving disaster management: the role of IT in mitigation, preparedness, response, and recovery. National Academies Press, 2007.

Lea, Rodger. "Smart Cities: An Overview of the Technology Trends Driving Smart Cities." IEEE Advancing Technology for Humanity 3 (2017): 1-16.

Karadağ, T. U. N. Ç. "An evaluation of the smart city approach." (2013).

Bolívar, Manuel Pedro Rodríguez, and Albert J. Meijer. "Smart governance: Using a literature review and empirical analysis to build a research model." Social Science Computer Review 34.6 (2016): 673-692.

Braimoh, Ademola K., and Takashi Onishi. "Spatial determinants of urban land use change in Lagos, Nigeria." Land Use Policy 24.2 (2007): 502-515.

Kanevski, M., Kanevski, M.F. and Maignan, M., 2004. Analysis and modelling of spatial environmental data (Vol. 6501). EPFL press.

Chin, Jeannette, Vic Callaghan, and Ivan Lam. "Understanding and personalising smart city services using machine learning, the internet-of-things and big data." Industrial Electronics (ISIE), 2017 IEEE 26th International Symposium on. IEEE, 2017.

Kanevski, M., A. Pozdnukhov, and V. Timonin. "Machine learning algorithms for geospatial data. Applications and software tools." (2008).

Alawadhi, Suha, and Hans J. Scholl. "Smart Governance: A Cross-Case Analysis of Smart City Initiatives." System Sciences (HICSS), 2016 49th Hawaii International Conference on. IEEE, 2016.

Horita, Flávio EA, João Porto de Albuquerque, and Victor Marchezini. "Understanding the decision-making process in disaster risk monitoring and early-warning: a case study within a control room in Brazil." International journal of disaster risk reduction 28 (2018): 22-31.

Vijai, Praveen, and P. Bagavathi Sivakumar. "Design of IoT systems and analytics in the context of smart city initiatives in India." Procedia Computer Science 92 (2016): 583-588.

Alkandari, Abdulrahman, Meshal Alnasheet, and Imad Fakhri Taha Alshaikhli. "Smart cities: a survey." Journal of Advanced Computer Science and Technology Research (JACSTR) 2.2 (2012): 79-90.

Pereira, Gabriela Viale, et al. "Smart governance in the context of smart cities: A literature review." Information Polity Preprint: 1-20.

Panagiotopoulos, Panagiotis, Alinaghi Ziaee Bigdeli, and Steven Sams. "Citizen–government collaboration on social media: The case of Twitter in the 2011 riots in England." Government Information Quarterly 31.3 (2014): 349-357.

Bolívar, Manuel Pedro Rodríguez, and Albert J. Meijer. "Smart governance: Using a literature review and empirical analysis to build a research model." Social Science Computer Review 34.6 (2016): 673-692.

AMETIC. "Smart cities 2012." (2013).

Barber, B. (2013). If mayors ruled the world: Dysfunctional nations, rising cities. New Haven, CT: Yale University Press.

Willke, H. (2007). Smart governance: Governing the global knowledge society. New York, NY: Campus Verlag.

Winters, J. V. (2011). Why are smart cities growing? Who moves and who stays. Journal of Regional Science, 51, 253–270.

Walravens, N. (2012). Mobile business and the smart city: Developing a business model framework to include public design parameters for mobile city services. Journal of Theoretical and Applied Electronic Commerce Research, 7, 121–135.

Schuurman, D., Baccarne, B., De Marez, L., Mechant, P. (2012). Smart Ideas for Smart Cities: Investigating Crowdsourcing for Generating and Selecting Ideas for ICT Innovation in a City Context. Journal of Theoretical and Applied Electronic Commerce Research, 7 (3), 49–62.

Batty, M., Axhausen, K. W., Giannotti, F., Pozdnoukhov, A., Bazzani, A., Wachowicz, M….Portugali, Y. (2012). Smart cities of the future. European Physical Journal, 214, 481–518.

Bătăgan, L. (2011). Smart cities and sustainability models. Informatica Economică, 15, 80–87.

Giffinger, R., Gudrun, H. (2010). Smart cities ranking: An effective instrument for the positioning of cities? ACE: Architecture, City & Environ, 4, 7–25.

Study of retirement planning with special reference to recent developments

Dr.Kaustubh Arvind Sontakke
Associate Professor,
SIES College of Management Studies,
Navi Mumbai

Ramya Ramakrishnan
Postgraduate Management Student,
SIES College of Management Studies
Navi Mumbai

ABSTRACT

Retirement is the period in a person's life during which he/she stops working. Retirement calls for an income planning to manage short and long term goals, when one opts to stop working. With an increase in average life expectancy, the retirement planning has become a major concern. It is required to determine retirement income goals, actions and the decisions necessary to meet those goals.

Personal retirement planning is not compulsory, but an option for future preparation. A strategy for future is developed by identifying sources of income, estimating expenses, implementing a savings program and managing assets. Estimation of Future cash flows is done to determine if the retirement income goal will be achieved.

The objectives of this paper are to study latest developments in retirement planning and analyse awareness, access, experience and perception of selected respondents about retirement planning. The study is empirical in nature and primary data is collected from selected respondents. Also secondary data is used wherever necessary, which is cited appropriately.

The research found that there is less awareness of respondents about the latest advancements in personal retirement planning. Due to online facility and use of smart phones, the access to these financial products is better. The respondents do not have very positive perception about the retirement planning.

Keywords: Retirement planning, Income, Savings, Investment, etc.

INTRODUCTION

Retirement is the period in one's life during which a person leaves the workforce with a plan to never return. Most people retire at a late adulthood stage that is after 60. It is a big adjustment for people who have been working their entire life. It is a negative change for people, when the cash flow coming in stops suddenly, and they are left to find their substitute for their monthly income. Hence, retirement calls for an income planning to manage short and long term goals to help us achieve the financial goals both during working span and retired life, when one opts to stop working. Retirement planning involves analysis of financial objectives, current financial position and expected future cash flows to develop an extensive retirement strategy.

With an increase in average life expectancy, the retirement planning has become a major concern. This is because post-retirement life span is longer now compared to what it was earlier. According to the latest World Bank data, life expectancy in India has increased from 53-54 years in 1980 to 67-70 years in 2015. Living longer has a direct effect on our financial preparedness for retirement. While many people might have an accumulated pension to fall back on, but the truth says otherwise, according to a research. An annual price rise or inflation of 5-6% combined with the prospect of potentially living for another 20-25 years post retirement can become an expensive outcome for people in the future.

Regular income flow is the basic need for retirees. The source for these incomes depends on the accumulated pensions, savings piled up, assets created by people, etc. These sources should be converted into a viable stream of regular income. There are various other sources/ avenues from which income can be generated for retirement. But not many people are aware of these sources for retirement planning. This is because they don't have a clear goal on how much to save and when to start planning on retirement. Hence it is essential to determine retirement income goals, actions and the decisions necessary to meet those goals.

This research is done to make individuals aware. This research focusses on analysing those sources, which are key requirements for retirement planning. An in depth study on the relevance of some schemes and their awareness among the common public has been done in this research. Investing for retirement wouldn't be complicated, if we determine how much we'll need and then develop a plan to achieve our goal.

THEORETICAL FRAMEWORK

In the research, we have focussed on some familiar retirement avenues and some relatively specific plans. The general retirement plans comprises of Savings account, mutual funds, recurring deposits, insurance policies, government policies, PPF, equity. This research focusses on the preference of these avenues by asking the people to rate them based on their relevance. Also, it focusses on some specific retirement plans and their awareness due to their significance. These specific plans consist of 401k, IRA, 403b and Keogh plans for employees, businessmen, etc.

401k is a popular qualified retirement plan, which comprises of special accounts that qualify for favourable tax treatments. It is designed mainly to encourage people to save for their retirement. The contribution they make from their salary is income tax free, which makes the employee prefer this plan. 401k plan fees and expenses generally fall under three categories namely planning administrative fees, investment fees and individual service fees. IRA stands for Individual Retirement Account. Unlike 401(k), it is not a "qualified" plan. The IRA is different from the 401(k) s, as 401k are created by employers, but an IRA is established by an individual. Keogh plan is a qualified retirement plan intended for self-employed people. It differs from 401k in terms of contribution by individual, because the compensation differs for the general employee versus self-employed people. 403(b) plan is a tax sheltered annuity plan for retirement designed for specific employees of public schools, tax-exempted organizations and certain ministers.

Savings account is an interest-bearing **account** for deposits that are held at a bank or other financial institution which provides a modest interest rate. A mutual fund is formed by collection of capital from different investors which are invested in company shares, stocks or bonds. It is shared by thousands of investors including yourself, and it is managed collectively to earn the highest possible returns. Public Provident Fund (PPF) is a long term investment plan with tax benefits under section 80C and tax free returns. Recurring Deposit is an investment avenue for retirement which enables investors to make regular monthly payments and save money for the long term. The insurance policy is a <u>contract</u> between the insurer and the insured, known by the name policyholder. It determines the <u>claims</u> which the insurer is legally required to pay. National Pension Scheme (NPS) is a low cost, tax efficient, flexible and portable Scheme, where employees and employers both contribute to the scheme.

LITERATURE REVIEW

A study on various advancements and scope of retirement avenues was done by reviewing some research papers and few articles on specific plans. The research paper by M. Krishna Moorthy, et al is an exploratory research establishes the relationship between the retirement planning behaviour and various factors affecting the retirement planning behaviour. The research identified several significant variables for working individuals' and predicted their retirement planning behaviour, including age, education level and income level. The findings of this research model supports that potential conflict in retirement planning, the attitude towards retirement and clarity in retirement goal are the major predictors of retirement planning behaviour. The results of this study have suggestions for working individuals to carry early retirement planning to enable them to have a strong financial base after retirement. [1]

In the descriptive research by Shailesh Singh Thakur, et al., a study was done understand the perception of individuals towards retirement planning. The results of the study have managerial implication to understand the behaviour of individuals towards retirement. The results identified the several significant variables in the prediction of retirement planning. The analysis revealed that majority of the respondents from survey want to retire in next 20 years and above, irrespective of the age, income and occupation. The analyses revealed that majority of the respondents are investing with their own belief which is not advisable. They should take suggestions from financial expert before investing on major avenues for retirement. [2]

The premise of the research by Fatemeh Kimiyaghalam, et al., is that many Malaysians have insufficient savings for their retirement. It is the reflection of the lack of planning for golden years post retirement. Using the theory of planned behaviour, time perspective theory, and this research investigated the influential behavioural factors on retirement planning in Malaysia. The results revealed a significant direct relationship between financial literacy, propensity to plan, retirement planning and future orientation. The attitude of saving is found to partially mediate these relationships. [3]

The study by Joanna K. Earl, et al., explored time perspective (TP) as a predictor of retirement planning and consequences based on adjustment, well-being, and life satisfaction. Past negative, present hedonistic, and future oriented predicted retirement planning were studied. Outcomes of retirement were predicted positively by retirement planning, and past positive TP. But it is negatively predicted by past negative, present fatalistic, and present hedonistic TP.

Implications for the design of retirement interventions were studied, and the stability of TP and the influence of different TPs on planning and adjustment were acknowledged. [4]

The systematic research by Michelle Pannor Silver, et al., examined the existing evidence on the timing and process of retirement of physicians. Physician retirement planning have important implications for patients, hospitals, and healthcare systems. So some questions were addressed in this regard as to their retirement age, reason for early retirement or delay in retirement, strategies to facilitate retention of physician. [5]

The article in Find Law was studied to find about some qualified retirement plans. The blog provided answers to some frequently asked retirement questions on these specific plans. The page provided explanation for 401k, IRA, and Keogh plans and why they are significant. It also categorised these plans for employees, businessmen and individuals and suggested the best alternative plan for them. This is an unexplored specific area of retirement avenue, which is why this research includes some questions on the awareness of these plans and their significance. [6] Another article from find Law highlights the working of 401k plan. This article explains the category of expenses under this plan under three types. They are administration fees, investment fees and individual service fees. It also highlights on other factors impacting fees and expenses and answers legal questions about 401k plan. [7]

This article is from recent economic times publication, mentioning that old age dependency is getting worse day by day due to not enough savings for retirement. Employment trends indicated that individuals have multiple jobs in their span of working due to decrease in job security. Life expectancy beyond working life is also on the rise thus increasing old age dependency. There is a great increase in retirees who will need to sustain their post-retirement savings over a longer period of life expectancy. [8] This research takes into account various factors and studies the awareness of individuals on retirement planning.

OBJECTIVES

- To study the awareness of certain retirement avenues among the working category from the age group of 20-70 with income group starting from 5 lacs and above.
- To analyse the impact of annual income on retirement avenues according to the relevance factors.

RESEARCH METHOD

We have used both secondary and primary research in this paper. Secondary research was used to find out the recent advancements and the existing avenues in the retirement planning. Then we formulated our research according to the advancements observed from the secondary research. The sampling technique we employed for this project was convenience sampling which comes under Judgement sampling. It is a kind of non-probability sampling technique that is used to choose a sample of subjects/units conveniently available for responses. In order to get a fair understanding of the topic we conducted the survey on subjects belonging to different age groups and coming from diverse educational and service backgrounds. We drafted a questionnaire comprising of 17 questions with the help of Google forms. We got the responses filled through online portals, telephonic interactions and one to one interaction with the samples. The survey was crafted such that the awareness about retirement avenues could be gauged amongst the subjects and if in case they were already aware about the certain specific avenues, then the purpose of those plans were determined.

Various tests were used to relate the qualitative and quantitative factors from the sample. In order to scale the responses, we used a Likert scale, for rating the retirement avenues. For data analysis we used SPSS and Microsoft Excel. In SPSS we used frequency analysis, chi square tests and correlation to work on the raw data. Through the Chi Square tests, we could find the relativity between any two selected parameters and through correlation we were able to quantify the relationship between these selected parameters. Conclusions were drawn with the help of the tables formulated through these tests. The conclusions were formulated from the analysis below.

DATA ANALYSIS AND THE RESULT

Frequency Analysis

Based on the survey conducted on retirement planning, the following data were observed and analysed. The sample comprised of 56% females and 44% males. The age group ranged from 20 to 70, with the maximum range between 40-50 years of age (27.6%) followed by 20-30 years of age group (23%)

Figure 01 and 02(Gender and Age group)

AgeGroup		
Range	Frequency	Percent
20-30	29	23.6
30-40	23	18.7
40-50	34	27.6
50-60	27	22.0
60-70	10	8.1
Total	123	100.0
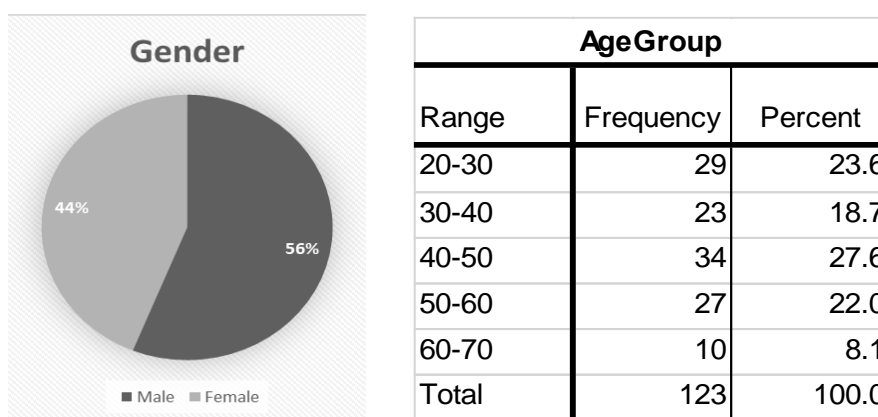
Source: Compiled from questionnaire

From the 123 people surveyed (table 03), 63.4% i.e. 78 people have started planning for retirement. When we asked the remaining people, the reason for not planning, around 57% people have opted to start planning on a later phase of their life and around 20% of the people haven't yet prioritized their financial goals. From the survey (table 04), 47.2% wanted to retire after the age of 60, while 44.7% people wanted to retire between 50-60 years of age.

Table 03 and 04

Retirement Planning		
	Frequency	Percent
Yes	78	63.4
No	45	36.6
Total	123	100.0

Retirement Age		
Age range	Frequency	Percent
Between 40-50	10	8.1
Between 50-60	55	44.7
After 60	58	47.2
Total	123	100.0

We asked about the major financial goals (Graph 05) people have started planning for, like buying property, retirement planning, children's education, buying car, planning their own marriage. People responded with multiple plans, with majority (60.2%) voting for retirement planning as a financial goal, while 51% chose buying property as a financial goal, and others for buying car, and planning marriage.

Graph 05
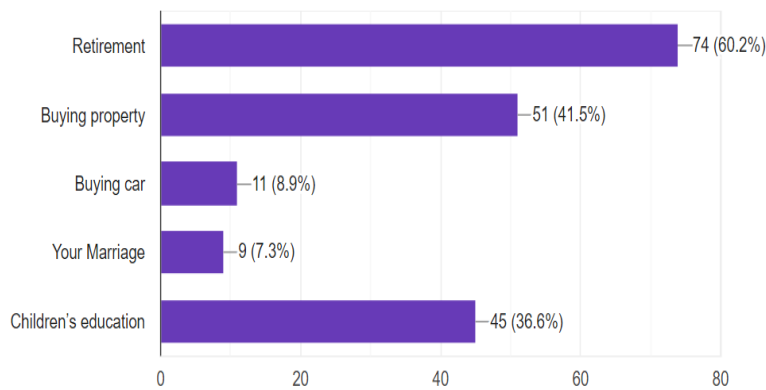
Source: Compiled from questionnaire

The annual income (table 06) in the survey had the limit from 5 lacs to 20 lacs and above, with around 69.1% of public falling under the category of 5-10 lacs income. From the survey (table 07), we found that around 53% want to spend their retired life in their current home, and around 36% wanted to spend their life nearby to their family.

Table 06 and 07

Annual Income		
Income Group	Frequency	Percent
5,00,000-10,00,000	85	69.1
10,00,000-15,00,000	25	20.3
15,00,000-20,00,000	8	6.5
20,00,000 and above	5	4.1
Total	123	100.0

Spend Retirement at?		
Place	Frequency	Percent
In my current home	66	53.7
In a new city	10	8.1
In a retirement community (Old age home)	5	4.1
A place closer to family	42	34.1
Total	123	100.0

Source: Compiled from questionnaire

We asked people to rate the policies in terms of relevance in their retirement planning (table 08), whose detailed results are as depicted in the table below. From the list of policies, Insurance policy was rated to be the most relevant policy with 26.8% and PPF to be the next most relevant with 23.6%. While, Savings and Equity investments were rated the least relevant from the listed policies with a 30.9% and 25.2%

Table 08

Ratings in % for various policies		Savings	Mutual Funds	Equity	RD Investments	Insurance Policies	Government Policies	PPF
Valid	Least Relevant	30.9	16.3	25.2	13.8	15.4	19.5	14.6
	Less Relevant	20.3	26.0	25.2	35.8	14.6	16.3	13.8
	Relevant	27.6	26.8	22.8	23.6	29.3	33.3	34.1
	More Relevant	8.9	13.0	10.6	12.2	13.8	13.0	13.8
	Most Relevant	12.2	17.9	16.3	14.6	26.8	17.9	23.6
	Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Compiled from questionnaire

After this, we asked people the avenues they have invested in, for retirement. Maximum people (52%) chose the savings account deposits, followed by mutual funds (43.1%). 33% people had invested in stocks and equity and 38% invested in the form of RDs. The rest of the people have invested in FDs PPS, NPS Schemes and insurance policies.

Table 09 and 10

FinancialPlanner		
Options	Frequency	Percent
I plan for myself	80	65.0
I rely on a personalised financial expert	10	8.1
I rely on online experts	2	1.6
I rely on Family members	31	25.2
Total	123	100.0

Average annual returns on investments		
	Frequency	Percent
Unsure	15	12.2
0-5%	19	15.4
5-10%	52	42.3
10-15%	27	22.0
15-20%	8	6.5
Above 20%	2	1.6
Total	123	100.0

Source: Compiled from questionnaire

Since the results would vary, we also asked whether they carry financial planning (table 09) for themselves or seek external help. 65% plan for themselves, 25.2% rely on family members to plan for retirement, and 8% rely on financial experts, while only 2% rely on online experts. 74% from the surveyed people are aware of the online retirement planner (table 11) to calculate pensions, and the rest 26% were not aware of the same. We asked people their annual returns

on investments (table 10). 12.2% were unsure of their returns, 15.4% got 0-5% returns, 42.3% earned 5-10% returns, 22% earned 10-15% returns, 6.5% earned 15-20% returns and the rest earned above 20% on their investments.

Table 11 and 12

Online tools awareness		
Aware or not?	Frequency	Percent
Yes	32	26.0
No	91	74.0
Total	123	100.0

401k, IRA, Keogh plans		
Aware/Not	Frequency	Percent
Yes	6	4.9
No	117	95.1
Total	123	100.0

Source: Compiled from questionnaire

We then asked people, their awareness about some specific plans (table 12) like 401k, IRA, 403(b), Keogh plans. A vast majority (95.1%) of the people weren't aware of these plans except the 5.9% people surveyed. Only these 5.9 %(6 people) were asked further questions on these plans. From these 6, only 1 person had savings in these plans. They used 401k plans for purposes like planning administration, investment and individual service fees. They weren't aware of the plan used for public sector employees, while only 50% were aware that IRA was used by business entities.

Table 13 and 14

Other significant assets		
	Frequency	Percent
Property	66	53.7
Jewellery	22	17.9
Stocks	11	8.9
Bonds	6	4.9
Others	18	14.6
Total	123	100.0

Pension benefits		
	Frequency	Percent
Unsure	24	19.5
Yes	54	43.9
No	45	36.6
Total	123	100.0

Source: Compiled from questionnaire

The people who responded that they weren't aware of the specific plans (401k, Keogh, etc.) were taken directly to the last set of questions, where we asked them other significant assets they rely on besides retirement avenues. 53.7% invested on property, 17.9% on jewellery, 8.9% on stocks, 4.9% on bonds and the rest on other assets. Then we asked about defined pension

benefit schemes in their work place. 43.9% stated that they will be getting defined pension, while 36.6% stated they won't be getting any pension benefits and the rest 19.5% were unsure about getting a pension.

Chi square test:

We formulated a hypothesis to test relationship between the two variables, annual income and the various avenues for retirement. These avenues consists of savings account, mutual funds, equity, RD Investments, Government policies, Insurance policies and PPF.

Table 15 and 16

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.258[a]	12	.285
Likelihood Ratio	16.113	12	.186
Linear-by-Linear Association	.099	1	.753
N of Valid Cases	123		
a. 12 cells (60.0%) have expected count less than 5. The minimum expected count is .45.			

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	24.082[a]	12	.020
Likelihood Ratio	25.043	12	.015
Linear-by-Linear Association	.665	1	.415
N of Valid Cases	123		
a. 13 cells (65.0%) have expected count less than 5. The minimum expected count is .65.			

Source: Compiled from questionnaire

From the tables, following relationships were deduced:

In table 15, there is a significant relationship between annual income and amount invested in savings account (Since α=0.285 i.e., α>0.05); while in table 16, there is no significant relationship between annual income and investments in mutual funds. (Since α=0.02 i.e., α<0.05)

Table 17 and 18

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	21.937[a]	12	.038
Likelihood Ratio	19.015	12	.088
Linear-by-Linear Association	.708	1	.400
N of Valid Cases	123		

a. 12 cells (60.0%) have expected count less than 5. The minimum expected count is .53.

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	15.880[a]	12	.197
Likelihood Ratio	17.464	12	.133
Linear-by-Linear Association	.266	1	.606
N of Valid Cases	123		

a. 13 cells (65.0%) have expected count less than 5. The minimum expected count is .69.

Source: Compiled from questionnaire

In table 17, there is no significant relationship between annual income and investments in equity. (Since α=0.038 i.e., α<0.05) This means it is purely on the basis of self-interests of the individuals; while, in table 18, there is a significant relationship between annual income and investments in insurance policies. (Since α=0.197 i.e., α>0.05)

From analysis of the other 3 avenues, there is a significant relation between annual income and Government policies, PPF, RD Investments. (Since α>0.05)

Correlation:

Various factors were taken to obtain the correlation between each other. The factors taken for analysis were annual income, number of retirement avenues people have invested in, age group.

Table 19 and 20

		Number of retirement Policies people have invested in					
		Not invested in any Policies	1 Policy	2 Policies	3 Policies	4 Policies	Total
AgeGroup	20-30	6	9	12	2	0	29
	30-40	4	9	6	4	0	23
	40-50	2	12	14	2	4	34
	50-60	0	11	9	6	1	27
	60-70	0	1	6	2	1	10
Total		12	42	47	16	6	123

		Value
Interval by Interval	Pearson's R	.285
Ordinal by Ordinal	Spearman Correlation	.266
N of Valid Cases		123

Source: Compiled from questionnaire

From table 20, we got a positive correlation between the factors age group and the number of policies they have invested in. this means as the age group increases, the number of policies people have invested in also rises proportionately.

Table 21 and 22

		Number of retirement Policies people have invested in					
		Not invested in any Policies	1 Policy	2 Policies	3 Policies	4 Policies	Total
AnnualInco me	5,00,000-10,00,000	8	30	33	9	5	85
	10,00,000-15,00,000	3	7	9	5	1	25
	15,00,000-20,00,000	1	2	5	0	0	8
	20,00,000 and above	0	3	0	2	0	5
Total		12	42	47	16	6	123

		Value
Interval by Interval	Pearson's R	.003
Ordinal by Ordinal	Spearman Correlation	.021
N of Valid Cases		123

Source: Compiled from questionnaire

In figure 22, we got a positive correlation between the factors annual income and the number of policies they have invested in. this means as the annual income increases, the number of policies people have invested in also rises proportionately.

Table 23 and 24

		planning for retirement?		
		Yes	No	Total
AnnualInco me	5,00,000-10,00,000	51	34	85
	10,00,000-15,00,000	17	8	25
	15,00,000-20,00,000	5	3	8
	20,00,000 and above	5	0	5
Total		78	45	123

		Value
Interval by Interval	Pearson's R	-.139
Ordinal by Ordinal	Spearman Correlation	-.117
N of Valid Cases		123

Source: Compiled from questionnaire

But what we observed was, with increase in annual income, there is a decrease in people who have planned for retirement. Thus, there is a negative correlation among these factors.

CONCLUSION

The research conducted among the 123 individuals and their analysis provided us with some significant results. From the various financial goals like children's marriage, buying property, car, planning for their marriage, and retirement planning, majority (60.2%) have chosen retirement planning as a major priority and around 63.4 have started retirement planning. From the frequency analysis, we found that, even though majority of the public chose some retirement avenues like insurance policies, PPF, Government policies as most relevant, they have active investments in safer avenues with less returns like savings account. This is because, majority (65% people) have mentioned that they carry their own financial planning and don't rely on financial experts for planning. From the survey, we observed that very few people were aware of the 401k, 403b, IRA and Keogh plans, which provide various benefits to public employees, businessmen and others. Despite of numerable retirement avenues available, they need to be made aware of specific avenues to avail their benefits in the post retirement phase, which have been mentioned in the retirement theoretical framework.

From the Chi square tests, we found that annual income have significant relationship with the retirement avenues like savings account, insurance policies, Government policies, PPF, RD Investments. This means people invest in these avenues based on their annual income, while avenues like mutual funds, equity investments are not done based on annual income, but solely based on personal interests and awareness. From the correlation, we deduce that age group and annual income has a positive correlation with the number of avenues they have invested in. But annual income and the number of avenues they have invested are negatively correlated, indicating that with increase in the annual income, there is a decrease in people planning for retirement. So, we asked a question if they have any other significant assets in the form of jewellery, bonds, property, etc. and found that around majority people (53.7%) have invested in property. These other assets serve as a backup plan for retirement life and as a substitute for the retirement avenues. Yet, majority of the people rely on retirement avenues to get assured benefit after retirement and to enjoy a peaceful and insured life. Thus it is important to be aware of the advancements in terms of retirement avenues to reap their full benefits in the after retirement life.

This research has the limitations in terms of income group (i.e. above 5 lacs category only), age group of 20-70 years range, geographical limitation. Future study can focus on a broader income group and can study the patterns from actually retired individuals and suggest

improvements for the working age group to plan effectively for retirement. Also this study focusses on retirement planning only. So the future research can be done based on a broader perspective of financial planning that covers insurance, retirement planning, etc.

REFERENCES

[1] M. Krishna Murthy, et al (April 2012), A Study on the Retirement Planning Behaviour of Working Individuals in Malaysia, Retrieved from http://hrmars.com/admin/pics/696.pdf

[2] Shailesh Singh Thakur, et al (January 2017), A study on perception of individuals towards retirement planning, Retrieved from
http://www.allresearchjournal.com/archives/2017/vol3issue2/PartC/3-2-17-157.pdf

[3] Fatemeh Kimiyaghalam, et al (July 2017), The Effects of Behavioral Factors on Retirement Planning in Malaysia, Retrieved from
https://www.researchgate.net/publication/317719935_The_Effects_of_Behavioral_Factors_on_Retirement_Planning_in_Malaysia

[4] Joanne K. Earl, et al (1 April 2015), A Matter of Time: Why Some People Plan for Retirement and Others Do Not, retrieved from https://academic.oup.com/workar/article-abstract/1/2/181/1648345

[5] Michelle Pannor Silver, et al (November 2016), A systematic review of physician retirement planning, Retrieved from https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-016-0166-z

[6] Retirement Plan FAQ, Find Law Blog, Retrieved from
https://socialsecurity.findlaw.com/retirement-planning/how-to-plan-for-retirement-faq.html

[7] 401k plan and its working, Find Law Blog, Retrieved from
https://employment.findlaw.com/wages-and-benefits/a-look-at-401-k-plans-for-employees.html

[8] Economic times (October 2018), Old age dependency ratio getting worse in India underlining need to save for retirement, Retrieved from
https://economictimes.indiatimes.com/wealth/plan/old-age-dependency-ratio-getting-worse-in-india-underlining-need-to-save-for-

retirement/articleshow/66049594.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

Study: Understanding the Market Dynamics and Consumer Buying Behaviour in the Luxury Product Market in India-2018

Prof. Dr Anjana Grewal
Senior Professor and Senior Director
Centers of Excellence-SDA Bocconi Asia Center

Abstract

The Luxury market in India has been evolving over the last two decades and growing at a pace of an average of 25% pa. The market size in its entirety covers Luxury products, services and assets. This business segment is very wide and diverse. The focus of this paper is on understanding the market dynamics and consumer behaviour in the Luxury Product Market. The changing face of crorepatis in India, their growing wealth in India are areas that have been explored. An approach to Urban Luxury Segmentation has been developed. A research was undertaken amongst upper middle class individuals to study shopper buyer behaviour with respect to store attributes, channels, shopping habits and retail store advocacy. Regression model options were built and analysed to determine leading contributors to store advocacy. In the first stage, retail store advocacy was regressed on eight variables that were measured in the consumer research. A final model was selected for best fit. The key contribution of brand importance and impression in luxury products is evident. While overall store experience in India for luxury products is acceptable by the consumer, the data analysis indicates that the building blocks related to store attributes are areas where greater work needs to be done in India

Key words: Luxury Market in India, Store Attributes, Retail Spend in Luxury, Retail Store Advocacy, Luxury Brand Importance, Channel Preferences, Regression Model Development.

The Luxury Market in India: Market Size and Growth Rate

India, a land of Maharajas, has had both major royalty and minor royalty through the centuries. Inherent in our people in India is an understanding and an appreciation for fine craft, attractive handiwork, design elements, finish and precision through the years. Therefore the existence of a luxury market for a variety of goods and services has existed and evolved over the decades.

The size of the Luxury market in India in 2017 is estimated at USD 23.8 bn[1], a conservative estimate drawn on a base of USD 18.2bn[2], as part of an economy which has an estimated size

exceeding USD 2 trillion. The estimated overall growth rate of the market as per Assocham Study is in excess of 25 %. [2]

The author's estimate after reading various reports and news items, is that, the estimated size of the Luxury market in India is approximately USD 30bn by end 2018. This includes Luxury goods, services and assets. [3]

Growth Drivers in India for the Luxury Market

India is a growing economy with an increasing upper middle class population. Higher disposable incomes, amongst the upper middle classes, with younger brand conscious individuals in Metros and Tier 1 markets are amongst the key consumption and growth drivers in this market segment. As seen in the **Urban Luxury Market Segmentation**, (described later in the research paper) there are various other growing consumer segments that contribute to this growth rate.

Observations indicate that Tier 2 and Tier 3 markets have also commenced generating a new momentum, contributing to the current growth in this business segment. With the increase in international travel of the upper classes, their exposure to international brands, with an aspiration to own designer and well-known brands, there is an increasing awareness and demand that has been seeded. The super-rich purchase the luxury international brands during their overseas travels and sometimes also from retail stores that have opened in India.

Categories of Luxury Spending

The categories of Luxury spending are wide and varied. These include: Apparel and Accessories, Personal Care including Fragrances, Jewellery, Electronics, Holidays, Home and Travel Related, Watches, Vintage Spirits, Automobiles, Real Estate, Alternate Investments. Each of these segments is very large and the growth opportunities for participants exists.

These categories may be broadly classified into Product, Services and Assets. (3)

Table 1 has been reproduced from A T Kearney Report which indicates category sizes for 2009 and shows estimated and actual growth rates achieved.

Table 1: Luxury Category Sizes (4)

Category	2009 Market (USD mn)	2009-10 Growth Estimated	2009-10 Growth Actual	Key Drivers
Jewelry	730	21%	30%	Increasing gold and diamond prices and low price elasticity
Electronics	160	22%	35%	Increasing supply (modern trade)
Stationery	9	20%	25%	Increasing supply and usage as gifting item
Cars	745	32%	36%	New brands and better pricing due to local production
Fine Dining	270	10%	40%	Footprint expansion; new brands
Travel	32	15%	22%	Increasing inbound tourism
Apparel and Accessories	205	30%	30%	New entrants; footprint expansion
Wines and Spirits	180	22%	25%	Increasing consumer awareness
Watches	50	27%	29%	Increasing supply through higher distribution reach
Personal Care	230	20%	24%	Introduction of new brands
Hotels	440	10%	10%	New hotels; footprint expansion
Real Estate	1440	15%	Negligible	High interest rates, lower supply and expected market correction
Yachts	2	12%	Negligible	Inadequate infrastructure

Figure 3. Growth Rates by Category - Actual vs. Estimated

Source: Probe Equity Research, A.T. Kearney Analysis, Expert Interviews

Indian and International Brands in the Luxury Categories in India

On examination of the presence of Brands in the various Luxury category segments in India, we see that there are multiple Indian Luxury Brands in certain categories e.g. Jewellery, Apparel and Accessories, Hotels, Personal Care to name a few. Several of these Indian Brands have evolved over the years and carved a leadership position in their respective businesses, making us very proud indeed.

Several International Luxury Brands across categories have entered the Indian market over the years and performed well. Many of them have succeeded with the support of excellent Indian partners while a few have experienced challenges in creating partnerships where they share a vision and brand philosophy.

FDI Guidelines for Retail Luxury Segment

Very broadly the guidelines applicable are related to Single Brand Retail and Multi-Brand Retail.

While 100% FDI is allowed in Single Brand Retail, in the case of Multi Brand Retail the limit is 51 %.

This is a general comment. It would be advisable for a foreign player to check all the details with respect to the FDI Policy applicable to its business because there are several updates and

sub-clauses that need to be fulfilled. Several foreign players are working through Franchise agreements.

Luxury Consumer Segmentation

The Changing face of Crorepatis in India.

Reading the Wealth Report -2018 of Knight Frank (4), the number of individuals with assets in excess of USD 50 mn in India in 2017 is estimated to be 2920. For the whole of Asia the estimate is: 35880.This report indicates that India has recorded one of the fastest growth in its super prime population. It is further estimated that India will add 2000 such individuals at a higher growth rate of 71% by 2022.

The predictions in the same report for households earning USD 250,000 in Delhi is estimated to be 87458 and Mumbai-74866 for the period 2017-2022. Cities like Mumbai and Delhi would be among the top 10 markets to witness the highest addition in household earning.

Some of the factors contributing to this phenomena are:

- Senior level salaries in the range of Rs 1 cr to Rs 1.5 cr gained pace around 2010 onwards.
- Many more professionals in large companies started earning higher salaries, around 2010 onwards.
- There are several CEOs who have CTCs in excess of Rs 5 cr.pa.
- ESOPs as part of package became more common.
- A culture of higher bonuses set in in the late 2000s.
- A start -up culture came into vogue.
- The change in our Sensex over 10 yrs was 70 %+
- There were Bollywood blockbusters…multiple multi crore starrers
- Owners of IPL teams appeared….
  These factors have all contributed to the growing numbers of rich and super rich

The Kotak Wealth Management Report -2018 has indicated that the UHNWHs i.e. households with an asset base of Rs 25 cr was up by 10% to 160,600 in 2017. Expected to double to 330,400 by 2022.

Therefore the number of Rich and Super Rich/Crorepatis have grown in India over the last 15 years. Their lifestyle includes celebration of festivals and having big weddings thereby spending on luxury items lavishly.

The Upper middle class have grown in disposable income across cities in India thus resulting in a growing demand for Luxury products in India. There has been an upward shift in the lifestyles of urban consumer segments for reasons given in the paragraph earlier.

An **Approach to Urban Luxury Customer Segmentation (based on Income) with Buying Behaviour** based on Observation and Experience has been developed.

Urban Customer Segments in Luxury	Buying Behaviour
Upper Middle Class	• *Aspirational, Good Life Style, Travel Abroad Less Frequently* • *Brand Awareness, Purchase International Brands-Personal Care, Accessories*
High Earning Professionals-C Suite	• *They want the best-Residences, Dining, Holidays, Travel Abroad more Frequently* • *Brand Awareness and Brand Conscious, Purchase International Brands while shopping Abroad and in India*
NRI Families	• *Aspirational, Good Life Styles, Travel Abroad to visit the Family members* • *Brand Awareness, Purchasing both Indian and International Luxury Brands*
Super Rich-Business Families	• *Very Good Lifestyles, Acquiring the best residences in cities,* • *Brand Conscious, Travel Abroad -quite often, Purchase Indian and International Luxury Brands, Celebrate special occasions, Big Weddings*
Traditional Wealthy Families	• *Have had the wealth over decades.-Tatas, Birlas, Godrej's* • *Brand Awareness and Knowledge* • *Regularly Travel abroad. Have big homes, Have an envious life style,* • *Regularly have lavish celebrations- Weddings, birthday bashes* • *Regularly purchase Indian and international Luxury Brands*
Celebrities - Film Stars, IPL owners	• *Have earned a lot of wealth through hard work in their lifetime* • *Have created a lavish lifestyle* • *Have exotic homes, exotic holidays, exotic cars* • *Have Exotic Celebrations* • *Super Gifting* • *Big Fat Weddings*
Successful Entrepreneurs	• *Adopting a better Lifestyle* • *Fine Dining* • *Luxury Holidays* • *Overseas Trips* • *Brand/ Designer goods ownership*
Foreigners-Long stays-Expats	• *Adopt a lifestyle close to home country* • *Buy Designer Indian and International Brands*

- *Fine Dining*
- *Overseas Trips*
- *Purchase Indian Luxury Ethnic Designer wear*

Insights on Consumer Behaviour in the Luxury Product Segment in India

Consumer insights on Buying Behaviour were gained from a consumer research conducted amongst the higher income groups across key cities in India.

Elements of the Research Framework:

Very broadly the areas covered in the research tool are: International brands in the categories of Apparels, Accessories, Fragrances, Personal Care, and Electronics Luxury Products. The Primary Retailer is defined as the Retail Store whom the respondent frequents regularly to shop and advocates the retailer to friends and family. Location of the retail store either at Luxury Malls – e.g. Palladium (Mumbai) or Brand owned/franchisee stores on high shopping streets-e.g. Breach Candy and Linking Road-Mumbai. The other store types examined were: Shop in Shop-Shoppers Stop, or Airport Duty Free outlets.

Mobile Purchase Preferences selection criteria: place/channel, brand, cost of purchase were studied.

Store Related Attributes and Impacts: Store Personnel, Store Assortment, Store Environment, Store Communications, Store Promotions, Brands, Store Shopping Experience, Store Confidence, Store Advocacy were all deeply embedded in the Research Framework and measured.

Research Methodology: Face to face interviews. A Questionnaire was designed for the study to understand consumer behaviour in the Luxury Product segment in India.

Questionnaire: An international questionnaire on Retail Store Attributes developed by expert academics from SDA Bocconi School of Management for Retail Store Attributes was adapted for the Luxury Segment in India by the Center of Excellence (team)-Retail and Luxury.

Luxury Research Sample Details

Demographics

- Sample Size – 50.

- Annual income – INR 10 lakhs+. The respondents from households having an annual income of greater than Rs 30 lacs was 56%.

- Gender ratio - 60:40 (F:M)

- Age Group - 20-56 years

- Cities: While 9 cities were covered, the focus was Delhi, Mumbai, Hyderabad and Bangalore

- Research Timeframe - June-November, 2018

- **Note: Our Experience has been, that engaging the higher income individuals and getting respondent feedback is very time consuming. To complete a sample of 50 consumers in face to face interviews has taken us approximately five/ six months.**

Data Analysis and Key Findings

Consumer Preferences

- Apparels and Accessories are the most preferred product categories followed by fragrances and personal care.

- The brands which commanded a leading position were: **Armani, Burberry, Gucci, Chanel and LVMH. Some of the other key brands which received mention were: Sabyasachi, Prada, and Tag Heuer.**

- The retail store from where purchases were made: 60% respondents prefer- brand owned / modern trade stores in Malls and Brand owned stores in key shopping areas in cities, as the most common place to buy. This is followed by Airport-Duty Free outlets, followed by Shop in shop – e.g. Shoppers Stop.

- 52% of the total sample consider Mall-Brand owned/modern trade store as their primary retailer type

Mobile Purchase, Brand and Channel Preferences

The research shows that Luxury segment consumers buy high value mobile phones

- 94% respondents use smartphones costing more than INR 30,000/-

- And amongst these 55% are iPhone users. The next level of brands was One Plus and Samsung
  - The dominant channel for purchase of smartphone was online-54%,
  - 28% were purchasing from a brand owned store, 20% from store in a mall...Some use multiple channels.

Trust & Loyalty

- 58% of the respondents have loyalty with the primary retailer for a period of up to 5 years, consistently buying from the same primary retailer

- 50% said they visit retailer once every 2-3 months.

Store personnel

Store personnel are perceived as competent, friendly, and available to advise and help.

Store Assortment / Product Range

- Products are high quality and meet consumer needs.

Store environment

- Store environment is very pleasant, comfortable and the display of merchandise is good.

Store Communication

- However an area of improvement for stores is "store communication" where the response from 62% of the respondents was that the communication was "Not frequent enough"

Brand Impressions and Importance

- The role of the "Brand" for the Luxury Consumer is very important and plays a very strong role in consumer pull and store advocacy.

Store Promotions

- The Luxury consumer's response to store promotions is, that, they are clear and interesting, though not personalized for the shopper.

Retail Store Experience

- The Luxury consumer finds the retail store experience to be very satisfactory and delightful.

Retail Store Confidence

- The Luxury consumer places a high degree of trust and reliability on the primary retailer.

Retail Store Advocacy

- The Luxury consumer's advocacy on the components of future purchases, new range and recommending to a friend are very high.

Retail Spend:

- The average amount spent by the Luxury consumer is Rs 3,25,000 p. a. and the amount spent on the preferred brand is Rs 2,70,000 p.a.

Channel Mix:

- Luxury consumers have indicated that they spend 50% of their time in the retail store and approx. 60% in terms of value.
- It is interesting to note that 50% of the time is spent online and 40% in value.

Influencer Ranking.

- High trust placed with what family and friends have to say about the purchase.
- This is followed by customer reviews on the retailer website.
- Customers also read reviews on independent websites and social networks followed by independent product experts.
- We may conclude that in a purchase decision, family and friends and customer reviews are prominent influencers followed by independent experts.

Regression model building:

Regression model building was undertaken to understand factors contributing to Retail Store Advocacy in the Luxury Product Segment. Various models were developed and tested. The model with best fit has been accepted.

Stage 1: A multiple regression was carried out with Store advocacy as the dependent variable-Y and the following independent variables.

X1: Store Assortment/ range

X2: Store Personnel

X3: Store Environment

X4: Store Communication

X5: Store Promotions

X6: Brand Impression and Importance

X7: Retail Store Confidence

X8: Retail Store Experience

Y: Retail Store Advocacy

The model was obtained using SPSS and is given as Exihibit1.

Although the model had an R^2 value of 75.8% (adjusted R^2= 71.1%) and the model as a whole was significant (p value < .01), the sign of some coefficients (those of X1, X3 and X4) were negative, which was not consistent with expectations. The model also suffered from multi-collinearity as many of the coefficients were insignificant in spite of a high R^2 and the condition index was also high.

Stage 2: The variables with the negative signs were dropped from the model and the model was re-worked with X2, X5, X6, X7 and X8 as the independent variables. This model has not been shown in the paper. This model too was unusable because some other variables (X2 and X5) showed negative signs in this iteration. The multi-collinearity problem persisted on examination of the condition index and insignificant t values for 3 of the 5 coefficients.

Stage 3: Since all the direct store related variables (X1 to X5) showed inconsistent behaviour possibly due to the multi-collinearity problem, these were combined into one variable by averaging X1, X2, X3, X4 and X5. This resulted in the model which again has not been shown. The combined store related variables still showed a negative coefficient. The standardized beta of the combined store average was also very small (-.086) as compared to the other standardized betas indicating that the direct store related variables had limited impact on store advocacy. The multi-collinearity problem persisted with two of the four t statistics being insignificant.

Stage 4: As the impact of the direct store related variables appeared to be small, it was decided to drop all direct store related variables and the regression was run on X6, X7 and X8. The

model is also not shown. The multi-collinearity reduced as the condition index is 35.13 as compared to the Exhibit1-Stage 1- model where it was 68.64. The R^2 of the model is 74.4% (adjusted R^2 72.7%) and the F statistic is also significant (p < .01). The variable with the maximum impact on store advocacy is X6.

X7 has relatively less impact on store advocacy. One coefficient (that of X7) has an insignificant t value, as retail store confidence and retail store experience can be expected to be related. As this overlap is not limited to this sample, it is felt this model can be used to predict store advocacy. The model was also tested for heteroscedasticity using the White's test, and was found to be homoscedastic.

Stage 5: In order to remove the multi-collinearity, it was decided to drop one of the variables X7 or X8 as the variables X7 (retail store confidence) and X8 (retail store experience) could be related. The results of both models Exhibit 2 are summarized below:

	R^2 (adjusted R^2)	F statistic	t- statistics	Condition index
Y on X6 and X7	64.8% (63.3%)	p<.01	p<.05 for both	29.3
Y on X6 and X8	73.6% (72.5%)	p<.01	p<.01 for both	17.5

From the summary above, it can be seen in both models, the parameters are significant. However, the model with X6 and X8 as regressors has a higher R^2 and a lower condition index, indicating a better fit and reduced multicollinearity. Further the adjusted R^2 of this

Exhibit 1: Stage 1 of Modelling

Y on X1, X2, X3, X4, X5, X6, X7, X8

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	X8, X5, X1, X6, X3, X4, X7, X2[b]		Enter

a. Dependent Variable: Y

b. All requested variables entered.

model is better than that of the model in Stage 1 (Y on all 8 regressors). Hence this model is selected for application.

Study: Understanding the Market Dynamics and Consumer Buying Behaviour in the Luxury Product Market in India-2018

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.871[a]	.758	.711	.43957	.758	16.096	8	41	.000	2.189

a. Predictors: (Constant), X8, X5, X1, X6, X3, X4, X7, X2

b. Dependent Variable: Y

ANOVAa

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	24.88	8	3.11	16.096	.000b
	Residual	7.922	41	0.193		
	Total	32.802	49			

a Dependent Variable: Y

b Predictors: (Constant), X8, X5, X1, X6, X3, X4, X7, X2

Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	.877	.989		.887	.380	-1.119	2.873					
	X1	-.145	.129	-.099	-1.127	.266	-.406	.115	.115	-.173	-.086	.758	1.320
	X2	.122	.180	.082	.680	.500	-.241	.485	.412	.106	.052	.405	2.471
	X3	-.090	.155	-.065	-.581	.564	-.402	.222	.230	-.090	-.045	.471	2.123
	X4	-.069	.119	-.057	-.581	.564	-.310	.172	.225	-.090	-.045	.615	1.625
	X5	.019	.081	.020	.234	.816	-.145	.183	.142	.036	.018	.809	1.236
	X6	.569	.107	.549	5.310	.000	.352	.785	.775	.638	.408	.552	1.812
	X7	.155	.169	.098	.915	.366	-.187	.497	.614	.141	.070	.509	1.965
	X8	.327	.083	.413	3.922	.000	.159	.496	.666	.522	.301	.531	1.883

a. Dependent Variable: Y

Collinearity Diagnostics[a]

Model		Eigenvalue	Condition Index	Variance Proportions								
				(Constant)	X1	X2	X3	X4	X5	X6	X7	X8
1	1	8.910	1.000	.00	.00	.00	.00	.00	.00	.00	.00	.00
	2	.031	16.932	.00	.01	.00	.00	.00	.24	.01	.00	.35
	3	.018	22.481	.01	.08	.01	.01	.00	.62	.00	.00	.17
	4	.014	24.880	.00	.00	.00	.04	.06	.01	.49	.01	.11
	5	.008	33.547	.05	.01	.00	.06	.82	.05	.02	.00	.01
	6	.007	34.627	.03	.75	.02	.05	.01	.04	.01	.06	.09
	7	.006	38.052	.14	.02	.12	.13	.00	.01	.14	.20	.00
	8	.003	51.878	.23	.03	.43	.12	.10	.02	.31	.24	.00
	9	.002	68.640	.54	.10	.41	.59	.00	.02	.02	.48	.26

a. Dependent Variable: Y

Exhibit 2-A-Stage 5 of Modelling

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	X7, X6[b]		Enter

a. Dependent Variable: Y

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.805[a]	.648	.633	.49596	.648	43.179	2	47	.000	2.047

a. Predictors: (Constant), X7, X6

b. Dependent Variable: Y

ANOVAᵃ

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	21.242	2	10.621	43.179	.000ᵇ
Residual	11.561	47	.246		
Total	32.802	49			

a. Dependent Variable: Y

b. Predictors: (Constant), X7, X6

Coefficientsᵃ

Model	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	95.0% Confidence Interval for B Lower Bound	Upper Bound	Correlations Zero-order	Partial	Part	Collinearity Statistics Tolerance	VIF
1 (Constant)	-.194	.790		-.246	.807	-1.784	1.395					
X6	.652	.109	.629	6.002	.000	.433	.871	.775	.659	.520	.683	1.465
X7	.409	.165	.260	2.482	.017	.078	.741	.614	.340	.215	.683	1.465

a. Dependent Variable: Y

Collinearity Diagnosticsᵃ

Model		Eigenvalue	Condition Index	Variance Proportions (Constant)	X6	X7
1	1	2.986	1.000	.00	.00	.00
	2	.010	17.152	.27	.81	.02
	3	.003	29.318	.73	.19	.98

a. Dependent Variable: Y

Exhibit 2: B-Stage 5 of Modelling

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	X8, X6[b]		Enter

a. Dependent Variable: Y

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.858[a]	.736	.725	.42891	.736	65.655	2	47	.000	2.233

a. Predictors: (Constant), X8, X6

b. Dependent Variable: Y

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	24.156	2	12.078	65.655	.000[b]
	Residual	8.646	47	.184		
	Total	32.802	49			

a. Dependent Variable: Y

b. Predictors: (Constant), X8, X6

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	.606	.459		1.322	.193	-.316	1.529					
	X6	.622	.086	.600	7.228	.000	.449	.795	.775	.726	.541	.814	1.228
	X8	.323	.066	.407	4.907	.000	.190	.455	.666	.582	.367	.814	1.228

a. Dependent Variable: Y

Collinearity Diagnostics[a]

Model		Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	X6	X8
1	1	2.971	1.000	.00	.00	.00
	2	.020	12.332	.20	.09	.98
	3	.010	17.540	.79	.91	.02

a. Dependent Variable: Y

Conclusions from Regression Model Building.

1. From the above models, in the Luxury Product Segment in India, Retail Store Advocacy is *highly brand dependent* and and *dependent on store experience as a whole*. The consumers are very keen to get high quality products (which are not fakes).

2. The **Brand** leads the way in Luxury segment as seen in the model developed.

3. When individual store attributes are not making a significant contribution in consumer measurement, this implies that in the Luxury Product Segment, in India, the players have significant development to undertake in developing each store attribute to reach a very high standard and therefore become significant to the consumer. Retail Stores in Luxury goods in India are at an early stage of development. Therefore, significant work on these building

blocks needs to be undertaken- to get the right brand range, create excellence in store merchandising, store sales personnel need regular training to pitch the right brand stories in an engaging way.

T**he limitation** of the research is the sample size. A larger sample size would have been better. However, high income consumers are difficult to interview and field work takes time.

Trending in the Luxury Goods Segment

1. There is an increasing aspiration among the upper middle classes with higher disposable incomes to possess and use high quality luxury goods which is driving the growth of the luxury market in India. This segment travels less frequently abroad and are making purchases in India from brand owned stores.

2. There is an increasing number of the rich and super rich which is further driving consumption and growth.

3. There are both leading Indian and International Luxury Brands in several categories of the market e.g.-Titan Watches and International Brands: Rolex, Omega and several others

4. The Jewellery segment which contributes substantially to the Luxury market in India is largely dominated by Indian brands – Titan, Joyalukkas with international brands like Cartier having made an entry.

5. Shopping during special occasions – weddings-big fat Indian weddings and festivals continue to generate high sales.

6. The brand image, brand perception are the key pull factors in the Luxury Segment in India While we know this intuitively, the regression model unveils a similar finding.

7. Besides Metros and Tier 1 towns, Tier 2 and tier 3 consumers are also showing a growing attraction for Luxury goods.

8. The channels of preference are first branded retail stores and then online websites and marketplaces.

9. The retail spend per annum is in excess of Rs 300,000 which is handsome.

10. Consumers visit and advocate Brand owned stores in malls, high shopping streets and international duty free outlets at airports.

11. The research indicates that Luxury segment consumers buy high value mobile phones

References:

1. India Luxury Market-Assocham, India and Mazars-2016

2. India Briefing-March 9th-2017

3. KPMG-Assocham"Indian Luxury Market Summit 2014"

4. *India Luxury Review- 2011-A CII –A. T. Kearney Report*

5. The Wealth Report 2018-Knight Frank

6. Kotak Wealth Management - seventh edition - Top of the Pyramid (TOP 2017) report - Launched in Feb 2018- Themed around 'Luxury holds its own'.

7. Brahma Mahul, *Decoding Luxe, New Delhi, Srishti Publishers,2017*

Table 1: Luxury Category Sizes

Exhibit 1- Stage 1 of Modelling

Exhibit 2- A and Exhibit 2- B- Stage 5 of Modelling

What Makes Accounting Interesting for Learners? –Viewpoint of a Teacher from India

Narayanasamy Sivasankaran
Assistant Professor, Accounting & Finance
Indian Institute of Management Ranchi
Email: ns@iimranchi.ac.in

Author Biography:

Dr.N.Sivasankaran teaches accounting and finance courses at Indian Institute of Management Ranchi, India. His research interests include accounting education, working capital management and corporate governance.

Abstract

Purpose: The article aims to share the viewpoint of the author on the impact of the innovative teaching pedagogy adopted by him in teaching the accounting courses on the satisfaction of the participants in a premier Indian Business School.

Design/Methodology: The experiment was carried over by introducing an innovative teaching approach by the author among the first year participants of the Management Program. At the end of the experiment, the participants were asked to rate the teaching approach on a five-point scale besides offering the qualitative feedback on the impact of the experiment on their learning outcomes.

Findings: The paper concludes that the participants were highly satisfied with the teaching approach adopted by the author.

Originality/Value: The study contributes to the theory and practitioners on accounting education in many ways. Firstly, it is offering an evidence on the impact of teaching pedagogy on the satisfaction of the participants of the accounting courses of an emerging market business school. Secondly, the accounting educators of the emerging countries may replicate the experiment in their institutes. Thirdly, the educators of other courses in the business schools may make an effort to measure the impact of the teaching approach on the feedback of their learners.

Key words: Accounting, innovative teaching pedagogy, interesting for learners, satisfaction of participants

I. Introduction

The primary objective of teaching the accounting course to the participants of the Business Schools is to accomplish a set of learning outcomes such as providing a thorough understanding of the subject, strong technical skills, application orientation and the ability to think critically to solve the real life problems (Nelson, 1995; Paisley and Paisey, 1996; Beattie et al., 1997). The literature shows that participants of the Business Schools come to their accounting classes with an inappropriate or unrealistic perception that accounting is mechanical and repetitive number crunching process (Cory, 1992; Fisher and Murphy, 1995; Friedlan,1995).Many accounting educators give a larger focus on the mechanical and bookkeeping aspects of the subject and thereby confirm to the pre-conceived negative perceptions of the students (Saudagaran, 1996).Further, accounting educators continue to give emphasis on usage of the conventional teaching methods such as lecture, seminar and textbook(Brown and Guilding,1993) which makes accounting classes boring to the learners.

Most accounting faculty members of the business schools have an indecisiveness in knowing how to provide a satisfactory accounting learning experience to the growing proportion of non-accounting (engineering ,arts and science)participants in their classes(Broad et al., 2000). Hence, Innovation is required in teaching accounting courses as the subject demands a variety of skills (Andersen et al., 1989) and participants possess numerous learning abilities and styles (Kolb at al., 1986). Several previous studies have investigated on curriculum design , innovative pedagogy in teaching accounting courses and their impact on course learning outcomes of the participants in developed country settings (Kullberg et al.,1989;Baldwin and Ingram,1991; Burilovich,1992; Knechel and Rand,1994;Basu and Cohen,1994;Albrecht,1995;Friedlan,1995;Cherry and Mintz,1996;Burns and Mills 1997;MoncadaandSanders,1998;Wilson,1999**;**woodroof,Ward,andBurg,2003**;**Carson,2006**;**Halabi,2006;Chen and Jones,2007**;**Nouri and Sahid,2008;Bentley,Brewer,and Eaton,2009**;**Stout and Wygal,2010**;**FortingandLegault,2010**;**Baker,2011**;**Chevis,Davis,andHurtt,2011**;**Mostyn,2012; McGowan,2012**;** Dunn and Hooks,2015;Entwistle,2015; Grimm,2015**;** McNellis,2015; Spicelandetal.,2015;Blankley,Kerr,andWiggins,2017;CordisandPierce,2017;Elington,2017;Phillips,2017; Tucker,2017). Hardly, one could come across an article that addresses the theme from the developing/emerging countries' perspective.

Therefore, this article aims to describe the impact of the innovative teaching pedagogy adopted by the author in teaching the "Financial Reporting Analysis" (FRA) and" Financial Reporting and Cost Management" (FRCM) courses on the satisfaction of the participants in an Indian Business School. The experiment was carried over among the first year participants of the MBA –Business Management Program (for FRA course), MBA-Human Resource Management Program (for FRCM course) and the Doctor of Philosophy (Ph.D) in Management Program(for FRA course) of a premier Indian business school. This study is unique as it perhaps is the first to examine the impact of an innovative pedagogy in teaching accounting course(s) on the satisfaction of the participants of an Indian business school.

The paper concludes based on the quantitative and qualitative analysis of the feedback of the participants that the participants were highly satisfied with the teaching approach adopted by the author. The study contributes to the theory and practitioners on accounting education in many ways. Firstly, it is offering evidence on the impact of an innovative teaching pedagogy on the satisfaction of the participants of the accounting courses of an emerging market business school, thereby, extending the body of knowledge on accounting education. Secondly, the accounting educators of the emerging countries may replicate the pedagogy in their institutes and investigate the impact of the innovation on the satisfaction of their participants. Thirdly, the educators of other courses in the business schools (both developed and emerging countries) may develop a customized teaching pedagogy and make an effort to measure the impact of the approach on the feedback of their learners.

The rest of the paper is organized as follows; Section 2 presents the student learning context and the Motive and Strategy in approaches to learning and studying. The third section describes the Teaching Approach adopted by the author. Section four presents the quantitative and qualitative reflections of the participants on the effectiveness of the teaching pedagogy /approach adopted by the study. The final section concludes the study and offers scope for further research.

II. Student Learning Context and Motive and Strategy in Approaches to Learning and Studying

According to Ramsden (1992), the past educational experience of the participants and the context of learning, teaching, curriculum, and assessment impact the participants' orientation towards studying. The learners' perception of the task requirements is determined by their

orientation towards learning and the context of learning, teaching, curriculum, and assessment. The learning approach is impacted by the participants' perception of the task requirements. The learning approach impacts the learning outcomes of the participants. (See Figure 1)
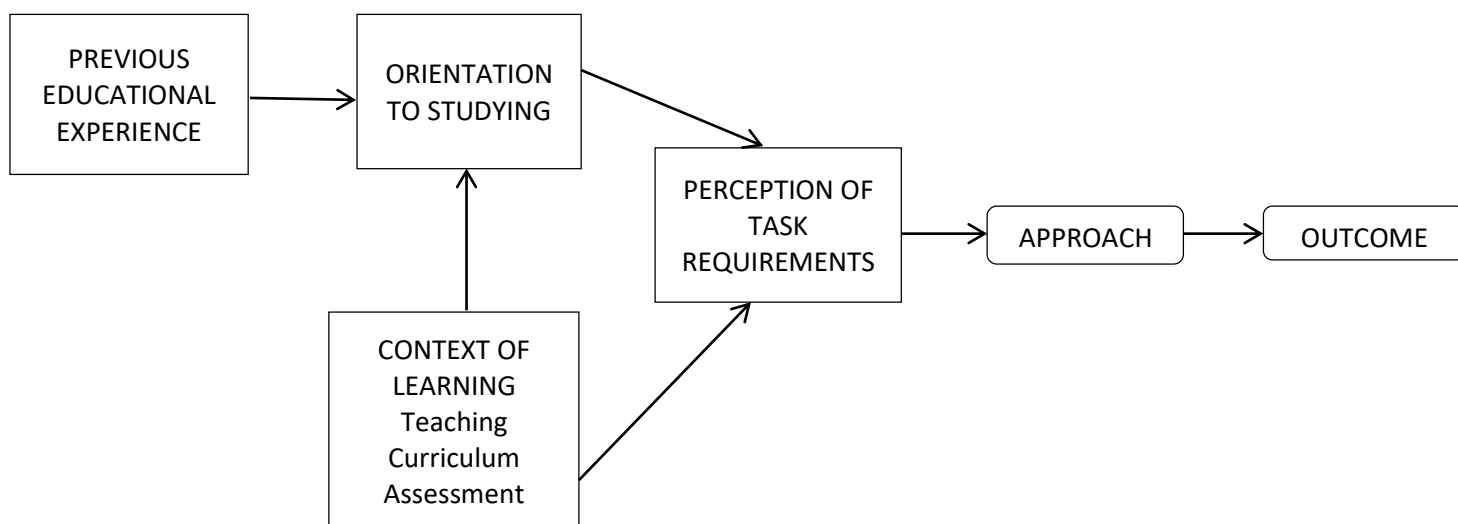
Fig 1: Student learning in context (source: Ramsden, 1992, p. 83)

Biggs (1987 a) lists down the motive and strategy in three approaches to learning that are adopted by participants in a learning environment. He points out that the motive of the surface learning approach is just to meet the minimal requirements of the course while the Deep learners want to deepen their interest and competence in specific subjects and the motive of the third type of learners "Achievers" is to enhance their ego by scoring the highest scores in every subject/course irrespective of their interests.

The strategy of surface learners is to meet the minimal requirements of the course and "reproduce through rote learning". The deep learners' strategy is to read deeper and link new learning with their prior knowledge and the strategy of Achievers is to organize their space and time and "behave as model student". (See Table 1)

Table 1: Motive and strategy in approaches to learning and studying

Approach	Motive	Strategy
SA: Surface	Surface Motive (SM) is instrumental: main purpose is to meet requirements minimally: a balance between workingtoo hard and failing.	Surface Strategy (SS) is reproductive: limit target to bare essentials and reproduce through rote learning.
DA: Deep	Deep Motive (DM) is intrinsic: study to actualize interest and competence in particular academic subjects.	Deep Strategy (DS) is meaningful: read widely, inter-relate with previousrelevant knowledge.
AA: Achieving	Achieving Motive (AM) is based on competition and ego-enhancement: obtain highest grades, whether or not Material is interesting.	Achieving Strategy (AS) is based on organizing one's time and working Space: behave as 'model student'.

Source: **Biggs, 1987a, p. 11**

III. Teaching Approach Adopted for the Study

The author had designed and followed an innovative approach to teach the Financial Reporting and Analysis course to the MBA-BM students (187 in number) and Ph.D. in Management students (13 in number) and the Financial Reporting and Cost Management course to the MBA-

HR students (68 in number) who were divided into four sections. Both the courses were offered for 30 hours in twenty sessions in Term 1 of the respective programs in the Academic Year 2018 (July-September). The author had adopted a **Ten Point Approach** to teach the Financial Reporting and Analysis and Financial Reporting and Cost Management courses which incorporated the following features:

1. Course Design & Clarity in Communication of the Course Learning Objectives
2. Choice of the textbook
3. Introductory sessions through video content
4. Concept first Cases Next
5. Cases Cure Boredom
6. Weekly Assignments
7. Participants Solving the Cases/problems on the board
8. Continuous Assessments and Feedback
9. Desire to Teach better
10. Creation of an aligned learning environment to earn the desired profit (Learning outcomes)

1. ***Course Design & Clarity in Communication of the Course Learning Outcomes***

   The author had designed the content of the courses based on his previous experience and interaction with the old (passed out) students of the institute. The FRA course covered the essential topics in Financial Accounting such as Introduction to Financial Statements, Preparation and Analysis of Income Statement, Preparation and Analysis of Balance Sheet, Preparation and Analysis of Cash Flow Statement, Basic Accounting Records, Revenue Recognition and Monetary Assets, Inventories and Cost of Sales, Long lived Non-Monetary Assets and their Amortization, Operating Lease vs. Capital Lease accounting, Treatment of Deferred Tax Assets and Liabilities and Financial Statement Analysis. The FRCM course covered the relevant topics of interests in Financial and Management Accounting for a HR Manager which includes Introduction to Financial Statements, Preparation and Analysis of Income Statement, Preparation and Analysis of Balance Sheet, Preparation and Analysis of Cash Flow Statement, Financial Statement Analysis, Nature of Management Accounting, Behavior of Costs, Full Cost and their uses, Customer Profitability Analysis, Traditional vs. ABC OH

Allocation approaches, Budgeting , Short-run alternative choices decision making and Standard Costing.

A course well designed solves half the problems of the students. One cannot teach all the topics to the learners in a thirty-hour course and hence the author gave more emphasis on the vital and essential topics and as much time and focus on the desirable topics in order to avoid the dullness in the delivery of the course. Further, it is to be noted that the participants should be made aware of the objectives of the course as the questions that comes to their mind in every 15 minutes in the classroom is "Why is he Teaching this topic?" and "How is it useful to me?". The author had kept on reminding the participants about the need for learning a topic and how it is going to be useful to the participants in their managerial career.

2. *Choice of the Textbook*

There are a number of textbooks that are available in the market for both the FRA and FRCM courses. But the textbook to be recommended for the participants should consist of the following features

- Coverage of all the essential topics in depth
- Inclusion of discussions on IFRS
- Provision of illustrations and chapter-end problems
- Presentation of real-life cases for all the topics
- Presentation of material in an interesting manner

Accounting is learnt by doing and hence the recommended text book plays a major role in accomplishing the course learning outcomes in an easier manner. The author had recommended the text book (for FRA and FRCM courses) that had fulfilled the above stated features.

3. *Introductory sessions through video content*

It is not possible to cover both the basic and advanced topics of both the courses in the 30-hour time and hence, the author had video captured 5 of the introductory sessions that covered topics such as introduction to financial statements, Preparation of Balance Sheet and Preparation of Income Statement and circulated the video content to the participants few days before the commencement of the regular classes. The participants

were instructed to consider the introductory sessions' videos as a mandatory pre-requisite for attending the regular classes to be offered by the author.

4. Concept first Cases Next

It is always a dilemma for faculty members of management on whether they should focus more on teaching through concepts or through cases or through the mix of both concepts and cases. The advantage of teaching only through cases is that the participants do not get dullness in the classroom as they are challenged to solve the real life problems. However, the approach works only when the participants have a reasonable prior understanding of the concepts. Case only method of teaching argues for imparting the application orientation among the learners but one cannot apply a concept in a real life management situation without knowing the concept with clarity. This is especially true when it comes to teaching financial and management accounting courses which need to be taught in a structured manner and therefore, the author had taught the concept first and dealt with the cases next.

5. Cases Cure Boredom

Some educators teach the concepts and then require the participants to solve the problems /exercises given in the textbook either in the classroom itself or through the take home assignments. The advantage of this approach is that the learners may be having the conceptual clarity but the limitation of this approach is that the learners may not be in a position to apply the concepts in a real life business situation. Cases make the participants to come forward to the learning environment as it provokes the interests among the participants (suitable for Deep Learners) besides providing challenges to the participants in solving the problems within the limited time (meets the motive of Achievers). The authors had used fifteen cases in the FRA course and ten cases in the FRCM course. The participants (particularly the surface learners) sometimes do not participate actively and at times they are observed not even read the case before the commencement of the case discussion in the classroom. The author at regular intervals had communicated to the participants to maintain a "Case Learning Diary" for the course and keep writing the most important learning from each case that is been discussed in the class room. The learners were told that they may have a question in their mid-term and end –term examination on the learnings from a specific case. This

had made all the participants in general and the surface learners in particular to comply with the requirements to maintain a case diary.

6. Weekly Assignments

Participants want to see the linkage between what is taught in the classroom and what is happening in the real business world. Educators may provide assignments/hands on exercises on how to analyze financial statements using the annual reports of firms and relate the content of the course to the other courses and the real life implications for managers, investors and markets (Abbott and Palatnik, 2017).

The students of first year MBA program of the institute have no classes in the weekends. The institute schedules the twenty sessions for a course in ten weeks on an even manner such that only two sessions of FRA/FRCM is scheduled in a week. The author divided the course into ten topics such that each week, he handled one topic to the participants of both FRA and FRCM courses. In order to reinforce the learning of a topic, the author had given two cases on an average as a weekly assignment wherein the participants were required to send their individual assignment through mail on or before 5 p.m. on every Sunday. Concepts followed by cases followed by assignments completed the learning cycle of a week/topic.

7. Participants Solving the Cases/problems on the board

The author had experienced monotony in delivering lectures in the past and therefore introduced "Participants on the Board" approach in this academic year. The author used to randomly select one of the learners (usually one of the surface learners) for this activity and require him/her to come to the board and start solving the problem along with him on the board. The other participants in the class were requested to follow their friend on the board. This approach had helped the educator in three ways

- Firstly, everyone in the class know that if they show dullness, then they will be called to the board to solve the case

- Secondly, those who got an opportunity to solve the case on the board along with the instructor start liking the subject as accounting is learnt by doing and not seeing others doing

- Finally, the instructor can save more time through this activity compared to the other alternative of requiring the participants to solve the case/problems individually wherein he needs to clarify the doubts of every student on an individual

basis. The saved time can be used to solve another problem/case with the help of another student on the board.

8. *Continuous Assessments and Feedback*

Participants (specifically surface and achiever learners) of the accounting course prefer to get the feedback on their learning outcomes as often as possible. The evaluation criteria to be employed by the faculty must be communicated to the participants prior to the commencement of the regular classes. Because what gets done is what gets measured. The author had evaluated the participants using quizzes, Mid-Term, End-Term, Assignments and Class Participation. The marks scored by the participants in quizzes and mid-term examination were informed to the participants as soon as the evaluation was done. The author had conducted quiz 1 upon the completion of session number 5 and quiz 2 was conducted after completing the 15th session. Mid-Term was conducted after the 10th session and End-Term examination was conducted after the course got over. The evaluation was carried over covering all the topics so that the participants do not develop the habit of omitting some topics. This is important as recruiters may ask any question from any topic. Continuous assessment and feedback enable the participants to improve their course learning outcomes.

9. *Desire to Teach better*

The learners get inspired by a faculty member who is not only knowledgeable but also sincere and well prepared besides having the passion for teaching. In fact, it is the interest of the teacher which drives the learners' attitude towards learning accounting/any subject. This is particularly true to the surface and deep learners. The author had put in their best efforts in preparing for each session and wanted to teach as much better as it was possible for him. He had approached the students with a positive attitude and motivated the learners to come prepared for the classes besides being attentive and active in class room interactions. Further, he had encouraged the learners to ask as many questions as possible and kept his interest to teach better alive for all the 30 hours of the course.

10. *Creation of an aligned learning environment to earn the desired profit (Learning outcomes)*

Creating an aligned learning environment (alignment of curriculum, teaching pedagogy, assessment and learning outcomes) is most constructive in removing the pre-conceived negative perceptions of students on accounting (Mladenovic,2000). The faculty must integrate all the above stated aspects of the course curriculum, teaching pedagogy, evaluation and learning outcomes in order to exceed the expectations of the learners of the accounting course. This is because one point is inter-related to the other points. The author had made an integrated effort in providing a satisfactory learning experience of accounting to the participants of the experiment.

IV. Quantitative and Qualitative analysis of the Reflections of the participants on the effectiveness of the learning approach adopted by the study

The participants were asked to give their feedback on their level of satisfaction of the experiment at the end of the experiment. The feedback was collected on six parameters on a five-point scale where rating of "five" refers to excellent and rating of "1 "refers to very poor. The parameters considered for the feedback were "design of the course, Content of the course, Teaching Pedagogy, Assessment, Accessibility of the faculty and delivery by the faculty".

The ten-point approach adopted by the author has secured him an overall feedback (average of the six parameters' average feedback) of 4.75, 4.88 and 4.76 from the MBA-BM, Ph.D. in Management and MBA-HR participants respectively. This indicates that the participants have given a 95% satisfaction level with regard to the effectiveness of the teaching approach (See Table 2,4 & 6 for Quantitative Feedback of participants from MBA-BM, Ph.D. and MBA-HR).

The qualitative feedback of all the three group of participants on the effectiveness of the ten-point approach revels that most of the participants were highly satisfied with the content, relevance, pedagogy, assessment tasks and delivery by the author (See Table 3, 5& 7 for Qualitative Feedback of participants from MBA-BM, Ph.D and MBA-HR).

Table 2: Quantitative feedback from Business Management Participants

Parameter	1 Very poor	2 Poor	3 Acceptable	4 Good	5 Excellent	Average	Standard Deviation	Maximum	Minimum
Design of the course	0%	1%	6%	18%	75%	4.67	0.64	4.84	3.93
Content of the course	0%	0%	5%	14%	81%	4.76	0.53	4.84	3.97
Pedagogy	0%	0%	4%	18%	78%	4.74	0.53	4.88	3.80
Assessment	0%	0%	4%	16%	80%	4.76	0.51	4.84	4.01
Accessibility	0%	1%	3%	14%	83%	4.79	0.50	4.89	3.99
Delivery by the faculty	0%	0%	3%	15%	82%	4.79	0.48	4.88	3.71
Average	0%	0.33%	4.17%	15.83%	79.83%	4.75			

Notes:
The feedback was collected from 187 participants
Design of the Course: How was it structured in terms of flow of concepts/issues and learning in view of the course objectives
Content of the Course: Extent to which the contents were relevant and up to date
Pedagogy used in the course: The appropriateness of the teaching and learning method
Assessment: Appropriateness of the assessment, tasks requirements and criteria for evaluation used by the faculty
Accessibility: The extent to which the faculty was open and accessible for providing feedback and counseling for improvement
Delivery by the faculty: The extent to which the faculty was overall effective in meeting the course objectives

Table 3: Qualitative feedback from MBA-BM Participants

A Course made great by a dedicated professor
Excellent Way of Teaching
All the Concepts were taught in a lucid manner

All the sessions were highly informative
It was a great learning experience
Best Accounting Classes
Satisfactory
Best Learning Experience
Brilliant Teaching and He made accounting fun, interesting and easy to learn
Difficult Subject Well Taught
Enjoyed Attending Classes
Excellent Explanation of the Concepts and indebted to him for creating interest in the subject
Excellent Pedagogy with highly informative lectures
Excellent Learning Experience
Good classes
Excellent Teaching Every Concept is Crystal Clear
Finally, He Taught Accounting to an Engineer
Full of Learning throughout the course/term
Great Classes, enjoyed the classes and learned a lot
Great experience, Loved attending Financial Reporting and Analysis classes
Great interactive pedagogy method
Great teaching and professional pedagogy maintained
Highly interactive classes
His way of teaching made me understand accounting easily
His classes were very engaging and made us to develop a profound interest in accounting

It is worth experiencing
Outstanding
Overall learning experience was good
He put in efforts to make us learn every bit of the subject and is always open to doubts
I am grateful to him for teaching this course and he helped us to understand the subject through lot of practice during classes
It is a pleasure to attend his classes. Overwhelmed
He was very much successful in engaging the whole class
Superb methodology of teaching and makes even engineers to understand accounting
The classes were of a unique learning experience
The classes were very interactive and learnt the holistic approach of solving problems
Very good
Well delivered
Very informative
Very much impressed by the way of teaching

Note: The above stated are the selective list of qualitative feedback given by the MBA-BM participations for the FRA Course

Table 4: Quantitative feedback from Ph.D. first year Participants

Parameter	1 Very poor	2 Poor	3 Acceptable	4 Good	5 Excellent	Average	Standard Deviation	Maximum	Minimum
Design of the course	0%	0%	10%	10%	80%	4.70	0.64	4.92	3.83

Content of the course	0%	0%	0%	10%	90%	4.90	0.30	4.90	3.75
Pedagogy	0%	0%	0%	10%	90%	4.90	0.30	4.92	3.83
Assessment	0%	0%	0%	10%	90%	4.90	0.30	4.90	3.83
Accessibility	0%	0%	0%	10%	90%	4.90	0.30	4.90	4.00
Delivery by the faculty	0%	0%	0%	0%	100%	5.00	0.00	5.00	3.62
Average	0%	0%	1.67 %	8.33%	90%	4.88			

Notes:
The feedback was collected from 13 participants
Design of the Course: How was it structured in terms of flow of concepts/issues and learning in view of the course objectives
Content of the Course: Extent to which the contents were relevant and up to date
Pedagogy used in the course: The appropriateness of the teaching and learning method
Assessment: Appropriateness of the assessment, tasks requirements and criteria for evaluation used by the faculty
Accessibility: The extent to which the faculty was open and accessible for providing feedback and counseling for improvement
Delivery by the faculty: The extent to which the faculty was overall effective in meeting the course objectives

Table 5: Qualitative feedback from Ph.D. Participants

Best Class and Best Teacher
Excellent
I am an engineer so the course is little bit difficult for me but the lectures were so good that I didn't face problems in the course
It was very methodological & easy way learn the course with the professor. He made every one of us involved in his classes through his unique way of engaging
Lot of learning in the classroom and highly interactive sessions
Privileged to have you as my teacher for this course

Note: The above stated are the selective list of qualitative feedback given by the Ph.D. participations for the FRA course

Table 6: Quantitative feedback from MBA-HR Participants

Parameter	1 Very poor	2 Poor	3 Acceptable	4 Good	5 Excellent	Average	Standard Deviation	Maximum	Minimum
Design of the course	0%	0%	3%	22%	75%	4.71	0.52	4.83	3.94
Content of the course	0%	0%	0%	24%	76%	4.76	0.43	4.83	3.94
Pedagogy	0%	0%	2%	25%	73%	4.71	0.49	4.81	3.82
Assessment	0%	0%	2%	16%	83%	4.81	0.43	4.83	3.95
Accessibility	0%	0%	0%	17%	83%	4.83	0.38	4.84	4.10
Delivery by the faculty	0%	2%	0%	19%	79%	4.76	0.53	4.86	3.78
Average	0%	0.33%	1.17%	20.50%	78.17%	4.76			

Notes:
The feedback was collected from 68 participants
Design of the Course: How was it structured in terms of flow of concepts/issues and learning in view of the course objectives
Content of the Course: Extent to which the contents were relevant and up to date
Pedagogy used in the course: The appropriateness of the teaching and learning method
Assessment: Appropriateness of the assessment, tasks requirements and criteria for evaluation used by the faculty
Accessibility: The extent to which the faculty was open and accessible for providing feedback and counseling for improvement
Delivery by the faculty: The extent to which the faculty was overall effective in meeting the course objectives

Table 7: Qualitative feedback from MBA-HR Participants

Awesome
Excellent Delivery

Excellent learning
Excellent Teaching skills
Good
Satisfactory
Great experience
Great Professor who taught extremely well
Good. Finally started to understand accounting concepts and cases
Interactive and enjoyable sessions
I really enjoyed the teaching methodology and the way he explained the concepts
Overall the course structure and the learning was very good
Professor keeps the class engaged
Perhaps the best
Satisfactory
The design of the course is relevant to HR participants and the pedagogy was good
The faculty is very helpful
Good teaching approach
Very interesting way of teaching accounting was demonstrated
The course was taught by citing relevant examples
The content was enriching and the teaching method was very good
The course presented a balance between the theoretical and practical aspects

Note: The above stated are the selective list of qualitative feedback given by the MBA-HR participations for the FRCM course

V. Conclusion

Accounting classes are misperceived by the participants as boring and difficult to understand. Literature on accounting education consists of several studies that had examined the various aspects of accounting education from the developed market perspective and there is a research gap with regard to the impact of the innovative teaching approach on the satisfaction of the learners of accounting in an emerging market business school. This article makes an attempt to bridge this research gap by offering evidence on the impact of an innovative ten-point teaching approach adopted by the authors on the satisfaction level of the students of the accounting course in an Indian Business School. The study concludes that the participants were highly satisfied in all the six parameters of student feedback with regard to the impact of the teaching approach adopted by this study.

The findings of the study have many implications. First, the study provide evidence on the impact of a teaching pedagogy in accounting education in an Indian Business School, perhaps for the first time and thereby extending the body of knowledge on accounting education. Second, the accounting educators of other emerging countries may investigate the impact of their teaching approach on the satisfaction of their participants. Third, faculty members teaching other management subjects may examine the impact of their teaching approach on the learning outcomes of their participants.

Accounting educators may carry out future research on the impact of teaching approaches on the grades, employment prospects of the participants both from the developed and developing countries settings. Further studies may also be conducted on a comparative mode of the impact of approaches on the outcomes between the two business schools of a country or of two countries.

References

- Albrecht, W. D. (1995), "A financial accounting and investment simulation game", *Issues in Accounting Education (Spring),* Vol. 10, pp.127-141.

- Arthur Andersen & Co., Arthur Young, Coopers & Lybrand, Deloitte Haskins B Sells, Ernst and Whinney, Peat Marwick Main & Co., Price Waterhouse, and Touche Ross (1989), " Perspectives on education: Capabilities for success in the accounting profession", *New York: Arthur Andersen & Co.*

- Baker, R. (2011), "An approach to course design for introductory financial accounting", *The Accounting Educators' Journal*, Vol.21, pp. 63–77.

- Baldwin, B. A. &lngram, R. W. (1991), "Rethinking the objectives and content of elementar~ accounting", *Issues in Accounting Education (Spring),* Vol. 6. I 14.

- Basu, P. & Cohen, J. (1994), "Learning to learn in the accotmting principles course: Outcome assessment of an integrative business analysis project", *Journal of A ccounting Education (Fall)*, Vol 12, pp. 359-374.

- Beattie, V., Collins, B. and McInnes, B. (1997), "Deep and surface learning: a simple or simplistic dichotomy?", *Accounting Education: an International Journal*, Vol. 6(1), pp. 1–12.

- Bentley, K. A., Brewer, P. C., & Eaton, T. V. (2009), "Motivating students to prepare for class and engage in discussion using the hot seat",*Journal of Accounting Education*, Vol. 27(3), pp. 155–167.

- Biggs, J.B. (1987), "Student Approaches to Learning and Studying", *Hawthorn: Australian Council for Educational Research.*

- Blankley, A. I., Kerr, D., & Wiggins, C. E. (2017), "The state of accounting education in business schools: An examination and analysis of active learning techniques", *Advances in Accounting Education: Teaching and Curriculum Innovations*, Vol. 21, pp. 99–122.

- Broad, M., McDonald, A. and Matthews, M. (2000), "Acceptability of accounting learning and teaching through the world wide web. Discussion Papers in Accounting and Management Science", *Number 00-159 (University of Southampton, UK).*

- Burilovich, L. (1992), "Integrating empirical research into the study of introductory accounting", Journal *of Accounting Education (Fall),* Vol.10, pp. 309-320.

- Burns, C. S. & Mills, S. K. (1997), "Bringing the factory to the classroom", *Journal of Accountancy (January),* Vol.56, pp. 58-60.

- Carson, L. (2006), "Art of conversation as an antidote to cultural exclusion", *Accounting Education: An International Journal*, Vol.15 (1), pp. 109–112.

- Chen, C. C., & Jones, K. T. (2007), "Blended-learning vs. traditional classroom settings: Analyzing students' satisfaction with inputs and learning processes in an MBA accounting course", *Advances in Accounting Education*, Vol.8, pp. 25–37.

- Cherry, A. A. &Mintz, S. M. (1996), "The objectives and design of the first course in accounting from the perspective of non-accounting faculty", *Accounting Education: A Journal of Theory Practice and Research*, Vol.1, pp. 99-112.

- Chevis, G., Davis, C. E., &Hurtt, R. K. (2011), "Backpack to briefcase: The transformation from student to accounting professional", *Advances in Accounting Education,* Vol. 12, pp. 33–52.

- Cordis, A. S., & Pierce, B. G. (2017), "The impact of class scheduling on academic performance in quantitative and qualitative business disciplines", *Global Perspectives on Accounting Education*, Vol. 14, pp. 44–66.

- Cory, S. (1992), "Quality and quantity of accounting students and the stereotypical accountant: is there a relationship?", *Journal of Accounting Education*, Vol. 10, pp. 1–24.

- Dunn, K., & Hooks, K. (2015), "Course scheduling and student learning: An empirical investigation", *Global Perspectives on Accounting Education*, Vol.12, pp.73–95.

- Ellington, P. (2017), "The impediments to the change to UK university accounting education, a comparison to the USA pathways commission", *Accounting Education*, Vol. 26(5–6), pp.576–598.

- Entwistle, G. (2015), "Reflections on teaching financial statement analysis", *Accounting Education*, Vol. 24(6), pp. 555–558.

- Fisher, R. and Murphy, V. (1995), " A pariah profession? Some student perceptions of accounting and accountancy", *Studies in Higher Education,* Vol. 20(1),pp. 45–58.

- Friedlan, J. (1995), "The effects of different teaching approaches on students' perceptions of the skills needed for success in accounting courses and by practicing accountants", *Issues in Accounting Education*, Vol. 10(1) Spring, pp. 47–63.

- Fortin, A., &Legault, M. (2010), "Development of generic competencies: Impact of a mixed teaching approach on students' perceptions", *Accounting Education: An International Journal*, Vol.19 (1–2), pp. 93–122.

- Grimm, S. D. (2015), "Learning logs: Incorporating writing-to-learn assignments into accounting courses", *Issues in Accounting Education*, Vol.30 (2), pp. 79–104.

- Jean Ingersoll Abbott & Barry R. Palatnik (2017), " Students' perceptions of their first accounting class: implications for instructors", *Accounting Education, DOI:* 10.1080/09639284.2017.1381032

- Halabi, A. K. (2006), "Applying an instructional learning efficiency model to determine the most efficient feedback for teaching introductory accounting", *Global Perspectives on Accounting Education*, Vol.3, pp. 93–113.

- Knechel. W. R. & Rand, R. S. Jr. (1994), "Will the AECC's course delivery recommendations work in the introductory accounting course? Some preliminary evidence", Journal *of Accounting Education (Summer)*, Vol.12, pp. 175 192.

- Kolb, David A., Rubin, Irwin M. and McIntyre, James M. (1986), "Organizational Psychology: An Experimental Approach to Organizational Behavior", *Englewood Cliffs, NJ: Prentice-Hall Inc.*

- Kullberg, D. R., Gladstone, W. L., Scanlon, P. R., Cook, J. M., Groves, R. J., Horner, L. D., O'Malley, S. F., &Kangas, E. A. (1989, April). Perspectives on education: Capabilities for success in the accounting profession.

- McGowan, S. (2012), "Going beyond the numbers in teaching financial accounting: The newsletter as an assignment option", *Issues in Accounting Education,* Vol. 27(4), pp. 1095–1117.

- McNellis, C. J. (2015), "Re-conceptualizing instruction on the statement of cash flows: The impact of different teaching methods on intermediate accounting students' learning"*, Advances in Accounting Education*, Vol.17, pp. 115–144.

- Moncada, S.M., & Sanders, J.C.(1998), "An assessment of the academic support system available to principles of accounting students", *The Accounting Educators' Journal,* Vol.10(2), pp. 44–55.

- Mostyn, G. R. (2012), "Cognitive load theory: What it is, why it's important for accounting instruction and research", *Issues in Accounting Education*, Vol. 27(1), pp. 227–245.

- Nelson, I. (1995), "What's new about accounting education change? A historical perspective on the change movement", *Accounting Horizons*, Vol. 9(1), pp. 62–75.

- Nouri, H., &Shahid, A. (2008), "The effects of PowerPoint lecture notes on student performance and attitudes", Th*e Accounting Educators' Journal*, Vol.18, pp. 103–117.

- Paisey, C. and Paisey, N. (1996), "A wolf in sheep's clothing? Teaching by objectives in accounting in higher education", *Accounting Education: an International Journal, Vol.5* (1), pp. 43–60.

- Phillips, F. (2017), "Are you making learning too easy? Effects of grouping accounting problems on students' learning", *Issues in Accounting Education*, Vol.32(3), pp. 81–93

- Ramsden, P., and I. Moses. 1992, "Association between Research and Teaching in Australian Higher Education", Higher *Education 23:pp.* 273–95.

- Rosina Mladenovic (2000), "An investigation into ways of challenging introductory accounting students' negative perceptions of accounting", *Accounting Education: An International Journal,* 9:2, pp.135-155

- Reva Berman Brown & Chris Guilding (1993), "A survey of teaching methods employed in university business school accounting courses", *Accounting Education, 2:3, 211-218, DOI: 10.1080/09639289300000029*

- Saudagaran, S.M. (1996), "The first course in accounting: an innovative approach", *Issues in Accounting Education 11(1) Spring*, pp. 83–94.

- Spiceland, C. P., Spiceland, J. D., & Schaeffer, S. J., III (2015), "Using a course redesign to address retention and performance issues in introductory accounting", *Journal of Accounting Education*, Vol.33(1), pp. 50–68.

- Stout, D. E., &Wygal, D. E. (2010), "Negative behaviors that impede learning: Survey findings from award-winning accounting educators", *Journal of Accounting Education*, Vol. 28(2), pp. 58–74.

- Tucker, B. P. (2017), "Figuratively speaking: Analogies in the accounting classroom", *Accounting Education*, Vol. 26(2), pp. 166–190.

- Wilson, G.P.(1999), "Teaching and learning can be energizing", *Issues in Accounting Education*, Vol.14(2), pp.337– 368.

- Woodroof, J., Ward, T., & Burg, B. (2003), "Should high–low go: An analysis using the bootstrap", *The Accounting Educators' Journal*, Vol.15, pp. 1–13.

Linking the Employment Value Proposition (EVP) to Employee Engagement

Dr. Aruna Deshpande
Associate Professor
University of Mumbai,
Alkesh Dinesh Modi Institute
Mail: aruna@admi.mu.ac.in
Mob: +91 9819194326

Ms. Renu P.Jogdand
Assistant Professor
University of Mumbai,
Thane Sub Campus
Mail: renu.jogdand@mu.ac.in
Mob: +91 8652876382

A. Abstract:

This study specifies an important business concept called Employment Value Proposition, which is a set of values that an employer offer to his/ her employees , and use as a magnet for attracting a new hires. Besides attracting candidates, employee value proposition (EVP) can help in engaging and retaining employees. This study examines the relationship between EVP and Employee engagement and its impact on business productivity and employee retention.

B. Key Words:

employee value proposition, Employee engagement, employee retention, attracting candidates, values.

C. Introduction:

The organizations' success in largely based on the professional staff and the fact cannot be denied that human resources are the primary resource in the organization. The importance of human resource in organizations is resulting from the fact that employees are the only active participate out of all the resources and employees help organization to gain the competitive advantage. Human resource ensures transformation of other resources; use them to be valuable and productive.

However, getting such skilled human resource can be achieved via 'poaching', which means attracting human resource and encourage them to work for your organization. But pouching is not just enough, since there is no benefit of attracting new skilled/ talented human resources if organization cannot succeed in maintaining the existing resource of qualified personnel.

Many workers including Tandehill (2006) have recommended organizations to build unique brands of themselves in the eyes of its prospective employees. This essentially means developing a statement of 'why the total work experience at their organization is superior to that at other organizations. The value proposition should outline the unique employee policies,

programs, rewards and benefits programs that prove an organizations commitment to people and management development. In nutshell it should define an employee's 'why should I join this organization?'

Employee value proposition "EVP" enables the organization to Attract, Engage and Retain employees, Corporate Leadership Council defines EVP as the set of attributes that the labor market and employees perceive as the value they gain through employment in a role. (Corporate Leadership Council, 2015)

Employee Engagement is defined as the intellectual and emotional attachment that an employee has to his or her work and organization. That is, employee engagement involves both rational and emotional factors— what employees think (the mind) and feel (the heart) about their work and organization (1), (2).

D. Research problem statement:

The research problem can be formulated in the following statement "what is the employee value proposition (EVP) attributes that organization would perceive as the value they gain through employment which increases the employee engagement"

E. Research Framework:

This research seeks to reach its objectives and measure the employee value proposition (EVP) attributes that organizations would perceive as the value they gain through employment, following are the attributes of same.

Figure 1: Dimensions of the Employee Value Proposition - Relationship between EVP and Employee engagement

a. **Dependent variables:**
   a. Value proposition importance to the employee.
   b. Value proposition attributes which increases the employee engagement
b. **Independent variables:** Employee value proposition attributes
   a. Work environment
   b. Organizational culture
   c. Rewards & compensation

F. Research Hypothesis:

1. Employee value proposition attributes are statistically significant component of employee's estimation of the importance of EVP.
2. Lower EVP discrepancy scores would indicate higher levels of employee engagement

G. Research Objectives:

a. Determine the different EVP attributes that drives attraction, commitment and engagement
b. Evaluate relationship between EVP and employee engagement
c. Suggest the key factors that could improve the EVP efficiency

H. Literature Review:

The wave of corporate restructurings, technological advances, and competitive pressures that began in the early 1980s has rippled well into the 21st century by revolutionizing the terms and conditions of work and redefining the relationship between employer and employee. Much has been written about the "new employment relationship" and how it is characterized by diminished feelings of employee loyalty, trust, and commitment. (4)

This new relation of employer and employee co-exist business practice is termed as *employee engagement* which gives organization a competitive edge. (5) And hence, organizations should increase its EVP to engage and motivate human resources of the organization. An EVP is the complete offering a company makes to its prospective and current employees in return for their best efforts. It encompasses pay and benefits, the non-financial aspects that attract, retain and motivate employees, and reasons due to which employees maintain a positive sentiment toward their former companies. The concept has been around for years but has been gaining more traction lately – and for good reason.

According to Biswanath Ghosh [2002], in an organization the most valuable input is the human element. The success or failure of an organization depends to a large extent on the persons who manage and run the organization. In business the greatest asset is the human resource of the enterprise and not the plant, equipment or the big buildings it owns. There was a time when manpower was considered as a cost factor but not it is recognized as an investment. "Your company needs a strong employee value proposition – a compelling answer to the question, 'Why would a highly talented person choose to work here?'" wrote Ed Michaels, Helen Handfield-Jones and Beth Axelrod in their 2001 book The War for Talent. (6)

Over View of Employee Value Proposition

Why do some companies attract significantly more than their fair share of talent, have lower levels of turnover, and enjoy the admiration of their competition for the superior results they deliver time and time again? (Berger & Berger, 2010, p. 109). Recent surveys indicate 88 percent of employees leave organizations for reasons other than money (Hill & Tande, 2006). According to Black (2007), many good companies with good strategies often fail to hit their targets because they don't have the people they need. Attracting and keeping talented employees is vital for companies to compete today. What can a company do, once they have found talented people and given them valuable training, to prevent them from walking out the back door and going to competitors? Why They Leave, Why They Stay (Boltax, 2011). The answer lies in how highly successful organizations like Google, Southwest Airlines, and IBM have differentiated, redefined, and communicated their unique Employee Value Proposition "EVP" to their employees (Berger & Berger, 2010, p. 109).

Employee Engagement Defined

The past few years have brought an explosion of interest in the area of employee engagement. Research describes employee engagement as the intellectual and emotional attachment that an employee has to his or her work and organization. That is, employee engagement involves both rational and emotional factors—what employees think (the mind) and feel (the heart) about their work and organization. (9), (10)

I. Data Analysis and Hypotheses Testing

The survey was conducted and questionnaire was shared with HR professionals. The employee survey included: 3 EVP attributes, 15 questions on employee engagement, on Career opportunity and overall employee satisfaction, and 1 open-ended question on employee engagement and satisfaction.

Employee Survey Measures:

Employment Value Proposition (EVP) Ratings:

Content selection was based on attribute themes that emerged in the research as drivers of retention and engagement. Each attribute was given a name (e.g. Organizational culture) and a definition (e.g. Leaders and managers are supportive) Using a 5-point Likert scale ranging from

1 (strongly disagree) to 5 (Strongly agree) employees were asked to rate the organization's effectiveness at fulfilling these areas. Hypothesis was that lower EVP discrepancy scores would indicate higher levels of employee engagement. Based upon factor analysis and internal consistency tests of the actual survey results, the EVP content was later modified
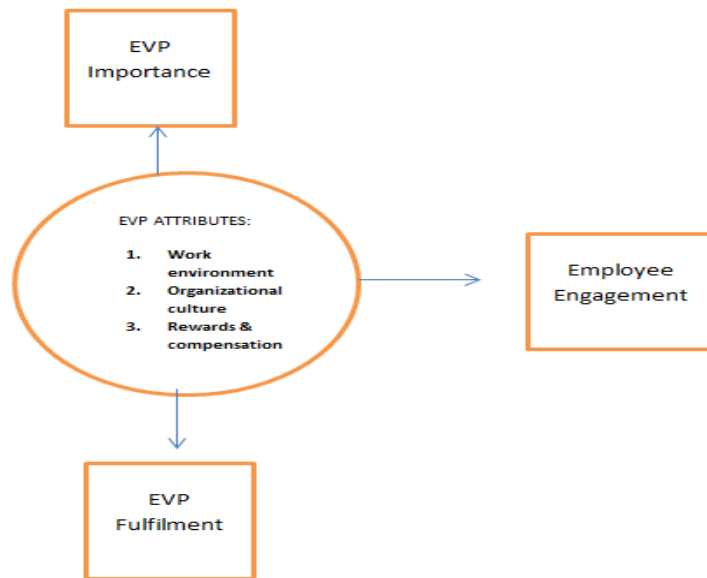

Figure2. Linkage model of the EVP to employee engagement

Data Analyses:

Relationships between employee survey responses were tracked. Correlations were calculated to estimate the relationship between each EVP attribute measure importance, fulfilment, and discrepancy) with our three employee engagement measures.

Preliminary Findings, Lessons Learned, and Recommendations

Our analysis looked at the importance that employees placed on 03 attributes of the EVP. Results showed that most employees rated each of the attributes as "Strongly Agree" or "Agree," providing little variance in employee responses.

Employee engagement increases when employees know their job

Neutral
10.9%

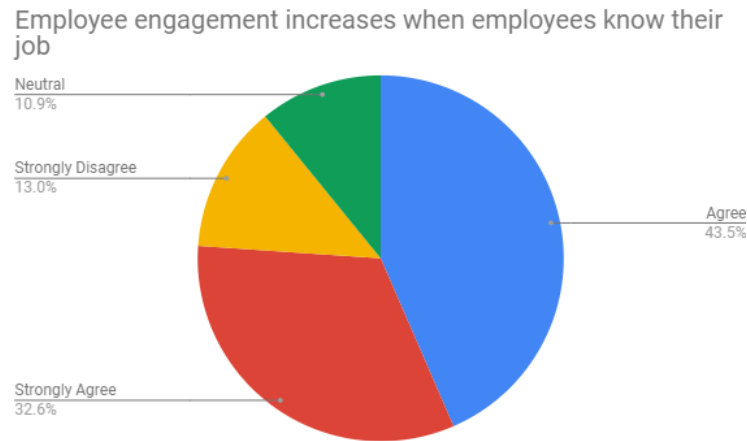Strongly Disagree
13.0%

Agree
43.5%

Strongly Agree
32.6%

Figure 3: A relationship between Work environment attribute and employee engagement from the findings of the survey

Various relationships between EVP fulfilment scores and Engagement:

Again, the primary goal of this research was to understand the relationship between EVP fulfilment and Engagement. As shown in Figure 4, we plotted the correlations of the Organizational culture attribute scores and employee engagement results (46 respondents). A few of these findings are noteworthy.

Employee engagement increases when Leaders and managers are supportive

Strongly Disagree
4.1%

Strongly Agree
20.3%

Agree
45.9%

Neutral
20.3%

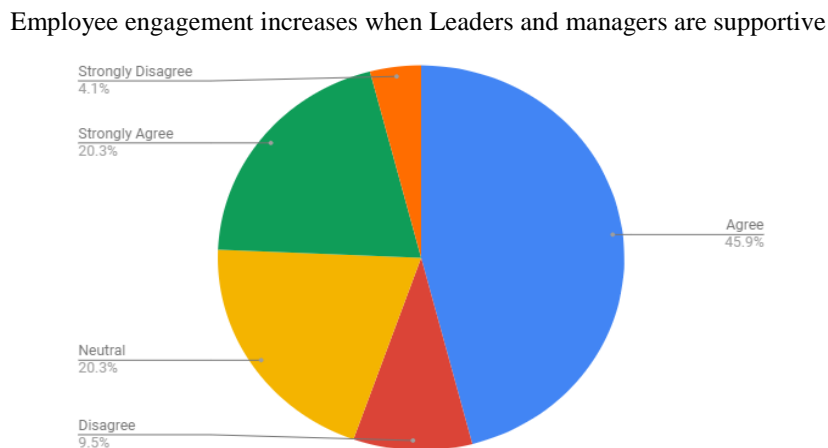Disagree
9.5%

Figure 4: A relationship between organizational culture attribute and employee engagement from the findings of the survey

Key factors that could improve the EVP efficiency

Elements of an EVP are not same for every organization. It will depend upon the vision of the organization and the economic trends.

For most of the companies' employee value propositions include the following-

Rewards - compensation benefits, health benefits, pension assurance, vacations etc.

Opportunity - career growth opportunities, promotions within the organization leadership opportunities, empowerment and revenue generation by the organization.

Work Environment - interesting work, work life balance, opportunity to be creative and innovative, recognition for the efforts, amount of travelling for job requirements etc.

People - team work, interaction amongst employees, social life, camaraderie etc.

By focusing on these key components organizations can evaluate where they stand today. They can try to find out what employees feel regarding their relation with the organization and try to fill the gap between how you want your employees to think about the organization and how they actually think currently. Companies with high EVPs are the sort of workplaces employees take pride working in. Employees enjoying a high EVP love what they do and where they work and they aren't afraid to tell other capable and promising candidates about their success.

J. Conclusion:

Today, an effective employee value proposition and employer brand is a key for increasing upper hand. Progressively, organizations are turning out to be purposefully strategic to use the EVP to attract and retain talent for the development and development. The expanding concentrate on upper hand is driving numerous organizations to re-evaluate their EVP. An all-around aligned employee value proposition has the ability to attract and retain talent and speak to quality to its clients, with the objective of increasing global acknowledgment in a sustainable way. The right sort of employee value proposition has likewise a lot of advantages as it gives an identity to the organization and structures enlistment. It pulls in the right sort of hopefuls and illuminates the organization's desires from them comfortable starting. Employees are highly engaged to work when you work on establishing a proper **EVP. Above all, it guarantees that the best employees remain focused, therefore permitting the organization to bear on its operations easily. Eventually, the way to an effective employer brand is to guarantee that desires are completely aligned with the substances of working for the organization**.

K. References:

1. Towers Perrin (2003). Working today: Understanding what drives employee engagement. Retrieved on January 22, 2007, from the Towers Perrin Web site: http://www.towersperrin.com/tp/Getwebcachedoc? webc=HRS/USA/2003/200309/Talent_2003.pdf

2. Corporate Leadership Council (2004). Driving employee performance and retention through engagement: A quantitative analysis of the effectiveness of employee engagement strategies. Washington, DC: Corporate Executive Board.

3. Ed Michaels, Helen Handfield-Jones and Beth Axelrod in their 2001 book The War for Talent.

4. Tsui, A.S, & Wu, J.B. (2005). The new employment relationship versus the mutual investment approach: Implications for human resources management. Human Resource Management, 44(2), 115-121.

5. Wellins, R.S., Bernthal, P.B., & Phelps, M. (n.d.). Employee engagement: The key to realizing a competitive advantage. Retrieved February 2, 2007, from the DDI Web site: http://www.ddiworld.com/pdf/ddi_employeeengagement_mg.pdf

6. Ed Michaels, Helen Handfield-Jones and Beth Axelrod in their 2001 book The War for Talent.

7. Heger, B. K. (2007). Linking the employment value proposition (EVP) to employee engagement and business outcomes: Preliminary findings from a linkage research pilot study. Organization Development Journal, 25(2), P121.

8. Ulrich, D., & Brockbank, W. (2005). *The HR value proposition*. Harvard Business Press.

9. Corporate Leadership Council (2004). Driving employee performance and retention through engagement: A quantitative analysis of the effectiveness of employee engagement strategies. Washington, DC: Corporate Executive Board.

10. Concours Group (2005). Problems at the top - apathy, contempt for managers. Retrieved on December 3, 2006, from the Concours Group Web site: http://www.concoursgroup.com/publications/EEE_011905_ PressRelease.pdf

Millennials and MOOC: From Classroom to Digital Dormitories

Ms. Jinal Shah
Coordinator & Assistant Professor,
Bachelors of Management Studies
SIES College of Commerce & Economics
Research Scholar
K. J. Somaiya Institute of Management
Studies and Research,

Dr. Monica Khanna
Director & Professor of Marketing
K. J. Somaiya Institute of
Management Studies and Research

Abstract

From the Gurukula system to cyber school system, from linear to longitudinal learning, from instruction to construction and discovery, from teacher-centered to learner - centered education, the digital media is causing the educators and students alike to shift to new ways of thinking about teaching and learning. From brick and mortar to click, from classrooms to digital dormitories, from chalk & board method to computer enabled web-based learning, the online education has created a disruptive model of teaching and learning. The purpose of this study is to understand factors influencing the adoption and usage of Massive Open Online Courses (MOOC). Primary data was collected using purposive sampling from 340 respondents who have used (enrolled and completed) MOOC at least once. Descriptive and inferential statistical tools were applied for analysing data.

Key words: Massive Open Online Courses (MOOC), Millennials, etc

Introduction:

Technology is the cradle on which a Millennial, a digital native is born. They are a generational cohort born between 1980s to early 2000s as per Neil Howe and William Strauss who are to be credited for coining the term of Millennial in 1987. Also known as Generation Next, Net Generation, Generation Me and Generation Y. They are early adopters of new technologies and extensive users of the mobile and the internet. The peculiar characteristics of Millennials are active thinkers and entrepreneurial spirit (Boys, 2010), highly engaged with social media (Chung, 2014) & (Bolton, & et.al., 2013) and someone who lives in two worlds, the real and the virtual (Zhang, Lu & Kizildag 2017). According to Twenge & Campbell (2008) generational cohort is a psychological and anthropological variable, as it represents the culture of one's upbringing during a specific time period. The choices of Millennials are influenced by social peer-orientation and their savviness for technology as compared to Generation X. This enables them to actively engage in co-creation activities (Bilgihan, Okumus, & Cobanoglu,

2013; (Zhang, Lu & Kizildag 2017). Past research has focused on the peculiar traits and characteristics of millennial customers, but very little research exists on their learning preferences, patterns and choices in the online mode. This research would like to take this as a starting point in understanding the millennial behaviour for online learning with specific focus on MOOC.

The upsurge of online education is seen across various geographies and demography. As per a report titled, "Online Education in India: 2021", a study conducted by KPMG, India and Google in May 2017, it is projected that India's online education market is about to grow to USD 1.96 billion and with 9.6 paid million users by 2021 from USD 247 million and 1.6 million paid users in 2016[8]. The growth drivers are demand, supply and macroeconomic factors like burgeoning thirst of knowledge of the demographic dividend to reskill and upskill for better employability, skyrocketing internet penetration and smart phone user base, Digital India initiatives for education like SWAYAM and E-Basta, rising disposable income, low-cost of online education and paradigm shift in student approach from clearing exams to understanding a topic better.

Objectives of the study

1. To identify favorable or unfavourable perception for the attributes of MOOC of Millennial students in Urban Mumbai.
2. To understand the usage patterns of MOOC among Millennial students in Urban Mumbai

Literature Review

The significant changes in use of the technology in online education has seen emergence of the concept of Massive Open Online Course (MOOC). The term MOOC was coined to refer to a course developed by Stephen Downes and George Siemens entitled Connectivism and Connectivity Knowledge in 2008[9]. Their intention was to exploit the possibility for interactions between a wide variety of participants through online tools so as to provide a richer learning environment than what traditional tools would permit. Globally, it is the most popular way used for offering online courses. MOOC are the massive courses designed to

---

[8] Online Education in India: 2021. (May, 2017) KPMG, India and Google.

[9] https://www.mcgill.ca/maut/current-issues/moocs/history

support unlimited participation and are offered through a platform. As of December 2016, approximately 58 million students are registered for the MOOC courses, offered by more than 700 universities and approximately 6850 courses (Shah, 2016) offered by various MOOC providers such as, Coursera, edX, Udacity. India after US, is dominating the global growth in enrolment, accounting for 8,83,400 (27 %) users on edX, 1.5 million on Coursera, and 112,000 (13%) on Udacity, from India as in 2016 (Pandey, 2016). The massive enrolment is ensuring that the vast majority of the growth in enrolment of learners is occurring from India, and will surely increase in coming years. In India, the institutes with the organizational capabilities along with the governing authorities are trying to serve the grown educational need of the learners, by offering MOOCs in the country. Some of projects serving currently for providing MOOC in India are NPTEL, mooKIT offered by IIT Kanpur, and IITBX of IIT Bombay. The most recent initiative started by the government is "SWAYAM", started with a goal to serve at a very large scale and to cope with the increased needs of the learners. The present study will be focused on the asynchronous form of online education in the form of Massive Open Online Courses.

MOOC is a unique models of distance learning and lifelong learning to reach the multitudes of people across globe (Wen, Yang, & Rosé, 2014). It has paved the way for modern learning to be collaborative, global, egalitarian, democratic and interactive (Taib, Chuah, & Aziz, 2017). MOOC is a revolutionary idea and a movement of reaching out thousands of students through one single course.

MOOC is a medium for open, flexible and online learning (Stewart, 2013). It uses computer, internet and several learning technologies for imparting knowledge to the learners in an unconventional way i.e. in a virtual classroom delivery format (Edelson, 2000). It doesn't involve any face to face interaction as the student teacher ratio is very high. MOOC has several advantages over traditional classroom teaching and learning. It is accessible, affordable, available, agile, efficient, flexible and conducive for learning. MOOCs can act as a supplement to the flipped classrooms or blended learning in regular university courses (Bruff & et.al, 2013). MOOC is a type of pre-packaged learning instructions. Courses taught at undergraduate level are converted into MOOC. A student/learner successfully completing a course on the MOOC platform is rewarded with statement of accomplishment. It does not carry any university accreditation. It is equivalent to letter of appreciation from the instructor. The frequency and intensity of interaction amongst students on the discussion forums and the flexibility in the delivery format is what makes MOOC so unique (Ospina-Delgado, Zorio-Grima & García-Benau, 2016).

In this current study, we concentrate on the key elements that affect both individual and collective usage of MOOC among millennials. Factors like certification from global university, teachings by renowned faculty, convenience, video lectures, entry exit barriers, employability, skill upgradation, etc. Following is the hypothesis for the factors influencing usage of MOOC among millennials

H_0: There is no significant difference in the average perception for different factors of MOOC among Millennials in higher education.

H_1: There is a significant difference in the average perception for different factors of MOOC among Millennials in higher education.

Proposed theoretical framework
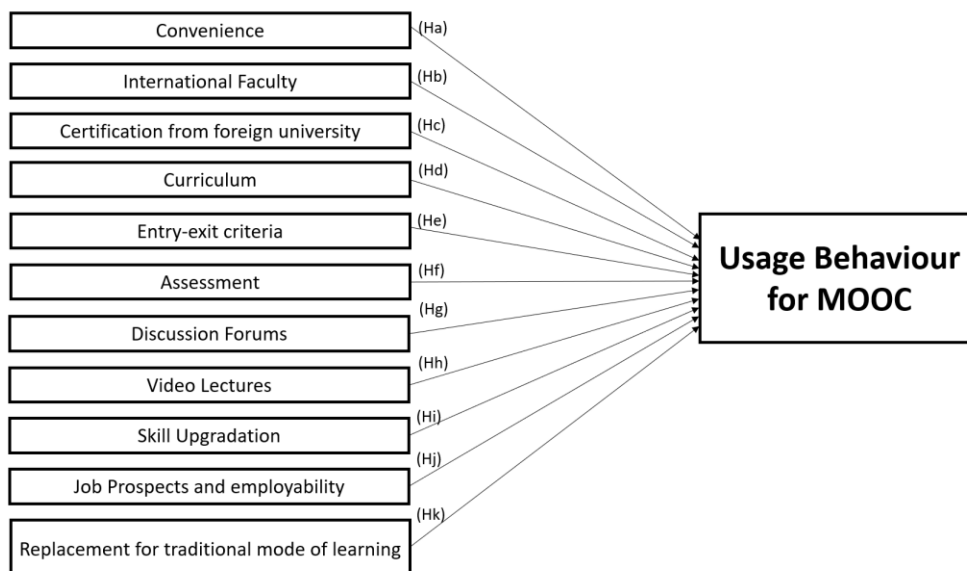
Research Design

A mixed-method research approach was used to collect data by applying qualitative and quantitative research methods. Focus group discussion and a self-administered questionnaire survey instrument was used to collect primary data. Three groups of undergraduate students studying commerce and management courses were invited for the focus group discussions. Each group consisted of 8-10 participants from suburban colleges in Mumbai. Only those participants were invited for the focus group discussion who have used MOOC. The insights from the focus group discussion helped in refining the survey instrument.

After developing the survey instrument, a pilot testing was conducted on 25 randomly selected students in the college campus. The feedback was used to make the instrument simpler and easier to understand by the respondents. A Google form was created and circulated among 500 respondents using purposive sampling. Only those who have enrolled and completed at least one MOOC course were asked to fill the questionnaire. As defining universe was not possible, non-probability sampling method was chosen out of which only 340 filled the form.

Data Analysis

This study investigated the factors influencing usage of MOOC and perception of its users. Descriptive statistical tools and techniques were used in MS- Excel for univariate analysis of the demographic information. For measuring the factors influencing the usage of MOOC, inferential statistics was applied using one sample test for the univariate analysis of data using SPSS.

From the table no. 1, it is observed that at 95% confidence interval out of all the eleven parameters the P-value is less than $\alpha/2 = 0.025$ for nine parameters namely convenience, presence of international faculty, certification from foreign university, curriculum, entry-exit criteria, assessment, video lectures, skill upgradation and job prospects and employability whereas the P-value is more than $\alpha/2 = 0.025$ for two parameters namely discussion forum and replacement for traditional mode of learning . So, we can say that we reject the Null hypothesis for all the above nine parameters. That means there is a significant difference in the average perception for the above nine factors of MOOC among Millennials in higher education. Whereas we accept the null hypothesis for the above two parameters. That means there is no a significant difference in the average perception for the above two factors of MOOC among Millennials in higher education.

Now for the above nine parameters where there is a there is a significant difference in the average perception of MOOC among Millennials in higher education, we will further identify the favourable or unfavourable perception by referring one sample statistics table.

From one sample statistics table of SPSS output sheet, we observe that the respondents are having favourable perception for seven parameters namely convenience, presence of international faculty, certification from foreign university, curriculum, entry-exit criteria, video lectures and skill upgradation. This means that the millennial respondents do think that these factors have enabled them to adopt the usage of MOOC in higher education. Whereas they

have unfavourable perception for assessment and job prospects and employability. That means that these factors cause a barrier in the adoption and usage of MOOC.

Table No. 1

Sr. No	Parameters	Non-Directional Hypothesis	P-value	Mean	Perception – Favorable or Unfavorable
1	Convenience	H_{0a}: μ = 3 H_{1a}: μ ≠ 3	.000	4.532	**Favorable**
2	International Faculty	H_{0b}: μ = 3 H_{1b}: μ ≠ 3	.000	3.749	**Favorable**
3	Certification from foreign university	H_{0c}: μ = 3 H_{1c}: μ ≠ 3	.000	4.028	**Favorable**
4	Curriculum	H_{0d}: μ = 3 H_{1d}: μ ≠ 3	.000	3.591	**Favorable**
5	Entry-exit criteria	H_{0e}: μ = 3 H_{1e}: μ ≠ 3	.000	4.327	**Favorable**
6	Assessment	H_{0f}: μ = 3 H_{1f}: μ ≠ 3	.000	1.268	**Unfavorable**
7	Discussion Forums	H_{0g}: μ = 3 H_{1g}: μ ≠ 3	.116 (**Null Rejected**)		
8	Video Lectures	H_{0h}: μ = 3 H_{1h}: μ ≠ 3	.000	4.611	**Favorable**
9	Skill Upgradation	H_{0i}: μ = 3 H_{1i}: μ ≠ 3	.000	3.753	**Favorable**
10	Job Prospects and employability	H_{0j}: μ = 3 H_{1j}: μ ≠ 3	.000	2.135	**Unfavorable**
11	Replacement for traditional mode of learning	H_{0k}: μ = 3 H_{1k}: μ ≠ 3	.1740 (**Null Rejected**)		

Conclusion

Disruptive technology is changing the way we learn the educational content. So, this study can be an advancement in the innovation studies for educational technology. It also contributes towards the enhancement of diffusion studies for educational technology in an Indian context. This study emphasises the factors influencing the usage of MOOC and the factors posing as barriers. The challenges faced in the traditional classroom teaching can be replaced by MOOC and the challenges faced in MOOC can be overcome by traditional classroom teaching. So both complement each other and hence pave the way for blended learning and omni channel learning.

Managerial Implications

This study benefits several stakeholders like officials of higher education institutes, teachers, students and the future employers of the millennial generation. This study will help the education industry in designing MOOC that is favoured and preferred by the student community. This study will open several avenues for the corporates in hiring and appraising their employees on the basis of qualification obtained via MOOC. It shall throw light on the fitment of job and the courses undertaken, rigor and relevance of the study. MOOC can help companies reduce their training costs. It can help companies understand the expectations of the Millennial employees, their career aspirations and the growth opportunities expected by them.

Limitations of the study and Areas for Future Research

This study is focused only on the usage behaviour of Millennials in Urban Mumbai. The results of the study may not be generalisable to other generational cohorts. Due to constraints of time and money, this study has used limited sample size by applying non-probability sampling technique.

This study can be replicated for Gen X and Gen Z respondents who use MOOC for reskilling and upgradation of their knowledge base. It can be implemented for paid or self-paced MOOC courses. Comparative study can also take place for International MOOC vs Domestic MOOC programs.

References

1. Boys, S. K. (2010). The Millennials Refuse to Be Ignored! An Analysis of How the Obama Administration Furthers the Political Engagement of a New Generation. *International Journal of Public Participation*, *4*(1).

2. Bruff, D. O., Fisher, D. H., McEwen, K. E., & Smith, B. E. (2013). Wrapping a MOOC: Student perceptions of an experiment in blended learning. *Journal of Online Learning and Teaching*, *9*(2), 187.

3. Bolton, R. N., Parasuraman, A., Hoefnagels, A., Migchels, N., Kabadayi, S., Gruber, T., ... & Solnet, D. (2013). Understanding Generation Y and their use of social media: a review and research agenda. *Journal of service management*, *24*(3), 245-267.

4. Bilgihan, A., Okumus, F., & Cobanoglu, C. (2013). Generation Y travelers' commitment to online social network websites. *Tourism Management*, *35*, 13-22.

5. Chung, K. C. (2014). Gender, culture and determinants of behavioural intents to adopt mobile commerce among the Y Generation in transition economies: evidence from Kazakhstan. *Behaviour & Information Technology*, *33*(7), 743-756.

6. Edelson, P. J. (2000). Virtual and Face-to-Face Learning: Meeting Points.

7. Ospina-Delgado, J. E., Zorio-Grima, A., & García-Benau, M. A. (2016). Massive open online courses in higher education: A data analysis of the MOOC supply. *Intangible Capital*, *12*(5), 1401-1450.

8. Pandey, N. (2016, Jul 14). Open online course providers upbeat as enrolments jump. http://www.thehindubusinessline.com/news/education/open_-online-course-providers-upbeat-as-enrolmentsjump/article8850328.ece

9. Stewart, B. (2013). Massiveness+ openness= new literacies of participation. *Journal of Online Learning and Teaching*, *9*(2), 228-238.

10. Shah, D. (2016, Dec 25). By The Numbers: MOOCS in 2016, How has the MOOC space grown this year? Get the facts, figures, and pie charts, https://www.classcentral.com/report/mooc-stats-2016/

11. Twenge, J. M., & Campbell, S. M. (2008). Generational differences in psychological traits and their impact on the workplace. *Journal of managerial psychology*, *23*(8), 862-877.

12. Taib, T. M., Chuah, K. M., & Aziz, N. A. (2017). Understanding Pedagogical Approaches of Unimas Moocs in Encouraging Globalised Learning Community. *International Journal of Business and Society*, *18*(S4), 838-844.

Bank of India's Social Innovation Initiative - MSME Scheme

Abhay Korde
Research Scholar,
Jamnalal Bajaj Institute of Management Studies, University of Mumbai

Dr. Kavita Laghate
Director,
Jamnalal Bajaj Institute Management Studies, University of Mumbai

ABSTRACT

MSME sectors are growth drivers of our economy. MSMEs have shown continued dynamism in terms of their contribution to national economy. Government of India has enacted MSMED Act 2006 with an aim to enable MSME entrepreneurs for increasing their worth and efficiency so that they may sustain the competition, enlarges their scope of activity and enlists them among the top performers. The Literature Review has been conducted to find out what other research scholars have studied about Micro Credit. The authors tried to study the secondary data related to Government of India's Initiative for MSME Sector, MSME Policy designed by Bank of India, Selected MSME Schemes of Bank of India and its performance related to MSME Sector, Initiative and Strategies. A look is also taken at the selected parameters of Bank of India for the period 2015-2016 to 2017-2018.

The Authors arrive to the conclusion that some of the performance of Bank of India was not satisfactory for the period 2015-2016 to 2017-2018, and especially under the leadership of Mr. Melwyn Rego, MD & CEO of the Bank. The authors have suggested that the GoI, RBI may take efforts to strengthen the Corporate Governance of the Bank and the Bank of India must revisit the Khandelwal Committee Report's recommendations on HR issues. Also the Bank must re-visit the recommendations given by the Committee set up by RBI to Review Governance of Boards of Banks in India. Also, a suitable Corporate Governance and NPA Model need to be put in place for the efficient performance of Bank of India.

KEYWORDS: Bank of India, Corporate Governance, Gross NPA, MSME, Net NPA, Policy.

INTRODUCTION

Social innovations are new strategies, concepts, ideas and organizations that aim to meet social needs resulting from working conditions, education, community development, and health. These ideas are created with the goal of extending and strengthening civil society. Prominent innovators associated with the term include Akhter Hameed Khan, of Pakistan, Muhammad

Yunus, and Bangladeshi. Muhammad Yunus, was the founder of Grameen Bank which pioneered the concept of microcredit for supporting innovations in many developing countries. The Grameen model is popular in the microfinance sector because this is targeted to the poor, provides door step service, delivers collateral less loans, has good repayment rate, focuses on women, it is managed by banking professionals and has good impact on marginalized groups.**[1]**

India is a fast developing economy of the world, the role of banking sector is very important to shape up the economy of the country. The financial systems and specially the banking sector has to play a crucial role for the free flow of money and capital in the areas of opportunities and develop more and more business units for the youths of the country to overcome the unemployment problems faced today by the country. The global growth rate, according to the International Monetary Fund (IMF), has accelerated to 3.8% in 2017 from 3.2% in 2016. Whereas as per the provisional estimate by Central Statistical Organization (CSO), the Gross Domestic Product (GDP) of India grew at 6.7% during 2017-18, slower than the previous year's growth rate of 7.1%. The Micro, Small and Medium Enterprises (MSME) plays is a very important segment of our country for the economic growth as it contributes early 6.11% of the country's manufacturing GDP, 33.4% of the manufacturing output and nearly 45% of the exports. **[2]** Nearly 60 Million business in India comprises the MSME Sector, which is also responsible for driving a substantial amount of economic growth in the country, while providing employment to approximately 80 Million people. This sector contributes around 95 percent of the manufacturing output in the economy, along with a significant share in the revenue generated by the service sector**. [3]**

The Government of India enacted MSMED Act 2006 with an aim to enable MSME entrepreneurs for increasing their worth and efficiency so that they may sustain the competition, enlarges their scope of activity and enlists them among the top performers. The Government has a separate Ministry of Micro, Small and Medium Enterprises, which is also the apex body for the formulation and administration of rules, regulations and laws relating to micro, small and medium enterprises in India.

LITERATURE SURVEY

Munda Santosh Kumar and Swain Sukhamaya [2014] in their Research Paper "Micro, Small and Medium Enterprises (MSME) in India; Financing by banks have taken a look to identify constraints faced by MSME Sector, compared MSME in Odisha State with that of other states in India, understanding the role of commercial banks in the development of MSME in Odisha; and recommended specific measures to improve the outcome. The methodology adopted by them was through collection of data, primarily from secondary source and the Primary Data was collected from various clusters. In addition, they collected data from success story of MSME clusters. The Secondary data was collected from published and unpublished reports, books, journals and various seminars. They arrived to the conclusion that there is a need for industry ready manpower; as such there is an urgent need for up gradation of existing MSME institute to a national level institution with branches in Rourkela, Berhampur and Sambalpur. The institute should have R & D facilities specific to MSME Sector. There should also be very close relation among the industry, technology provider, bankers, industry associations, government agencies, local/international agencies like UNIDO who are always working for the betterment of people.

Dr. Venkatesh J and Ms. Kumari Lavanaya R [2015] in their Research Paper "Performance of Mudra Bank: A Study on Financial Assistance To MSME Sector", has highlighted the importance and role of Mudra Bank towards the SME Sector. The main objective, of the Mudra Bank was to encourage entrepreneurs and small business units to expand their capabilities and operations, to reduce over indebtedness and to provide formal system of credit. They arrived to the conclusion that the schemes introduced for the overall growth and development of the MSME Sector, initiatives has been launched which focus solely on entrepreneurs. The schemes will contribute to the well-being of the individuals engaged in small scale industries which will positively affect the progress of the economy as a whole**.**

DEFINITIONS

Micro, Small and Medium Enterprises (MSME)
In accordance with the provision of Micro, Small & Medium Enterprises Development (MSMED) Act, 2006 the Micro, Small and Medium Enterprises (MSME) are classified in two Classes:

Manufacturing Enterprises - The enterprises engaged in the manufacture or production of goods pertaining to any industry specified in the first schedule to the industries (Development and regulation) Act, 1951) or employing plant and machinery in the process of value addition to the final product having a distinct name or character or use. The Manufacturing Enterprise is defined in terms of investment in Plant & Machinery. The Micro Enterprises in the Manufacturing Sector whose investment in plant and machinery does not exceed twenty five lakh rupees.

Service Enterprises:-The enterprises engaged in providing or rendering of services and are defined in terms of investment in equipment. The Micro Enterprises in the Service Sector whose investment in equipments does not exceed ten lakh rupees.

OBJECTIVE OF THE STUDY

The objective of the research is:

To take a look at -

i) Government of India's Initiative for MSME Sector.

ii) The MSME Policy designed by Bank of India.

iii) Bank of India's Select MSME Schemes.

iv) Bank of India's MSME Performance, Initiative and Strategies.

v) Selected parameters of Bank of India's for the period 2015-2016 to 2017—2018.

vi) Bank's Loans/Advances process.

RESEARCH METHODOLOGY

It is a Descriptive and Analytical Research. The present study is based on Secondary Data available in the public domain of RBI and Money Control website and Annual Reports of Bank of India.

GOVERNMENT OF INDIA'S INITIATIVE FOR MSME SECTOR

The Government of India has launched support and outreach initiative for greater synergy to MSME Sector. The twelve historic initiatives taken by Government of India for MSME Sector are:

- Loans up to 1 core within 59 minutes through online portal.

- Interest subvention of 2% for all GST registered MSMEs on fresh or incremental loans.

- All companies with a turnover of more than 500 cores to be mandatorily on TreDS platform to enable entrepreneurs to access credit from banks, based on their upcoming receivables, thus, solving the problems of cash cycle.

- All PSUs to compulsorily procure 25 percent from MSMEs, instead of 20% of their total purchases.

- Out of the 25 percent procurement mandated from MSMEs, 3 percent reserved for women entrepreneurs.

- All CPSUs to compulsorily procure through GeM portal.

- 100 Technology Centers to be established at the cost of Rs.6000 core.

- Government of India to bear 70 percent of the cost for establishing Pharma clusters.

- Returns under eight labour laws and 10 Union regulations to be filed once in a year.

- Establishments to be visited by an Inspector will be decided through a computerized random allotment.

- Single consent under air and water pollution laws. Returns will be accepted through self-certification and only 10 percent MSME units to be inspected.

- For minor violations under the Companies Act, entrepreneurs no longer have to approach court but can correct them through simple procedures.

BANK OF INDIA'S MSME POLICY

The Bank has framed an MSME Policy for lending advances to MSME's. The highlights of the same are as below:

- Threshold investment levels for both Manufacturing Sector (Investment in Plant & Machinery) and Services Sector (Investment in equipment) are defined.

- The Medium Enterprises (Manufacturing) have to be mandatorily registered with District Industry Centre (DIC) and for Micro & Small Enterprises (Mfg & Services) and Medium Enterprises (Services) is optional.

- Bank Loans to Micro and Small enterprises, both Manufacturing and Service Unit(s) eligible to be classified under Prior Sector advance as defined by the Bank i.e. Direct and Indirect Finance.

- The Bank has specified targets for lending to Micro and Small enterprises (MSE) sector by Domestic Commercial Bank.

- Issued Common Guidelines/Instructions for lending to MSME Sector.

- Delayed Payments by Companies to Micro/Small Enterprise Units is also specified.

- Institutional framework has been established with a view to increases the credit flow to MSME segments.

- Cluster Based Lending Approach has been adopted.

- Credit Appraisal/Credit Tenure/Working Capital Assessment guidelines have been issued.

- Credit Acquisition from other Banks/FI's defined.

- Norms related to Securitization Transaction are defined.

- Bank has designed a Credit Rating Model as instructed by RBI.

- External Rating facility has been defined and extended to the SMEs.

- Pricing/Exposure Norms/Margin Norms/Collateral Security & Credit Guarantee Fund Trust for Micro & Small Enterprise (CGTMSE)/Waiver for coverage under CTGMSES/Tie-Up for SME Financing defined.

- Structured Mechanism for monitoring the credit growth to the MSE Sector introduced.

- Loan Schemes and Products under MSME designed.

- Application & Proposal Forms and Due Diligence Rehabilitation of Sick Units & Debt Restructuring criteria for all MSME borrowers designed.

- Quarterly basis monitoring and reporting to Top Management system for submission to the Board introduced.

BANK OF INDIA'S MSME SCHEMES

The Bank of India's MSME Schemes –

Table: 1

SCHEMES		GOVERNMENT SPONSORED SCHEMES
• Star MSME E-Rickshaw.	• Star MSME GST Plus Scheme	• PMMY
• Star Weaver MUDRA Scheme	• Star SME Education Plus	• Stand Up India
• Star Start Up Scheme	• BOI Star Doctors Plus	• PMEGP
• TreDs	• Star SME Contractor line of Credit	• NULM
• Star SME Auto Express	• Star SME Education Plus	• Weaver's Mudra Scheme
• Star Laghu Udyami Samekat Loan	• SRTO	• Cluster Financing
• Pradhan Mantri Credit Scheme	• Technology Upgradation Fund Scheme	

Source: BoI website

Brief Description of Few Schemes: Various schemes and products are designed by the Bank to meet market expectations, customized to facilitate easy assessment and sector specific credit dispensation. Brief description of some of the schemes is as below:

Star MSME E-Rickshaw Finance -

The scheme is designed for all individual, Transport Operators, Association, Proprietorship firm, Partnership firm for purchase of new E-Rickshaw, funding cost of one time battery replacement. Appropriate authority should grant permit to the borrower to run e-rickshaws for passenger or good transport. The maximum finance under this scheme is Rs.5 Lakhs repayable in 48 installments. The vehicle needs to be hypothecated to the Bank. The Bank has specified certain margin for grant of loan under this scheme. The borrower should also insure the vehicle.

Star Laghu Udyami Samekit Loan - Under the scheme a composite loan in the form of demand loan and/or term loan are provided to all Micro and Small Entrepreneur at margin of 15% with prescribed ceilings for the quantum of Bank finance varying as per location of the unit. The maximum quantum of loan given in Metro, Urban, Semi Urban and Rural areas is Rs.100 lacs, Rs. 50 lacs, Rs.10 lacs and Rs.5 lacs respectively.

Star Priyadarshini Yojna – The scheme is specially designed for women entrepreneurs for purchase of equipment, machinery, vehicle, furniture and fixture etc., as well as for their working capital requirements. Under this scheme concession upto maximum of 1% p.a. is extended to the women entrepreneurs in applicable rate of interest. There is no upper ceiling for the loan amount.

Star SME Liquid Plus – The product is customized for the entrepreneurs who are engaged in business for period of at least 3 years and whose audited financials are in place. They can avail term loan for purchase of machineries, equipment's and for preliminary expenses for R & D activity, marketing and advertising expenses. Minimum and maximum advance facilities available under the scheme are Rs.10 lacs and Rs.500 lacs respectively.

Star SME Education Plus – This scheme is for the approved educational institutions i.e. Universities, Colleges and Schools with 3 years audited financials and record of profit making for at least continuous 2 years can avail Term loan for construction/Renovation/Repair of building and for purchase of computers, equipment's, furniture etc. The minimum and maximum loan which can be granted under the scheme is Rs.10 lacs and Rs.500 lacs respectively.

BANK OF INDIA'S MSME PERFORMANCE AND INITIATIVE AS ON 31 MARCH 2018

The Performance of Bank of India in lending to MSME Sector as on 31 March 2018
Table: 2

(Amount in Millions)

Particulars	31.03.2016	31.03.2017	31.03.2018	Y-o-Y Growth as on March 2017 over 2016 (%)	Y-o-Y Growth as on March 2018 over 2017 (%)
Total MSME	482060	510860	542850	5.97%	6.26%

Source: BoI website

Highlights of Performance of MSME Scheme as on 31 March 2018 –

- 184,887 new accounts added with sanctioned limit of Rs.12.413.77 crores.

- Disbursement of Rs.1118334 crores were made and outstanding were Rs.9,4180.80 crores.

- Disbursement under MUDRA was Rs.5,397.76 crores against budget of Rs.5,800 crore, achieved 93.06% of allocated budget with 361,708 number of accounts.

- 1,083 accounts were added with a total sanction limit of Rs.223.11 crore and cumulative figure is 5,185 accounts with total sanction limit of Rs.943.18 crore under Stand Up India.

- New 29,830 accounts covered under CGTMSE with total guarantee amount of Rs.3,474.58 crore and cumulative accounts covered 340,862 under CGTMSE with total amount of Rs.21,685.17.

- Total NPA under MSME segment was contained at 20%.

Initiative/Strategy of Bank of India as on 31 March 2018 for growth under MSME -

- TreDS platform floated by RXIL for bill discounting of MSME customers.

- Exceeded priority sector budget under MSME.

- Achieved regulatory target under micro enterprises with total outstanding being 7.96% on ANBC against target of 7.5% on ANBC.

- Enhanced working capital flow to MSE borrowers. Bank amended Policy to enhance the sanction of working capital limit to borrowers from minimum 20% to 25%.

- Working Capital limit for MSE borrowers transacting digitally, enhanced to 30% of the turn over for digital portion, from existing 20%.

- New products for GST compliant borrowers launched for increased requirement of working capital limits and input credit.

- New Schemes were identified and approved under cluster based lending in different sectors such as footwear, textile glass, medicine, etc.

- More focus was paid in lending to assets with low RWA and lending below Rs.5 Crore (Regulatory Retail).

- 107 additional SME centric Branches were identified in addition to existing 100 for channelizing credit flow to MSME sector.

- Relationship Managers and SME Nodal Officers were identified in all SME centric branches for providing assistance to MSME borrowers.

- Cash Flow financing to MSME Sector was stepped up.

- Launched GST return based working capital funding to GST registered borrowers.

- Growth was obtained through various differentiated products and services to key industry based segments and markets.

- More emphasis was on Cluster Based lending with common lending parameters and pricing for all the borrowers in a particular cluster.

- Evolving use of Fintechs for ease of MSME finance and to improve due diligence modalities.

- Contactless Loans were ventured into along with SIDBI and other Public Sector Banks.

- More effective use of Udyami Mitra portal for potential business.

- Reaching out to Entrepreneurs through increased linkages with industry associations/Chamber of Commerce/Organizing Camps, etc.

- Credit Plus service was instituted to Borrowers through financial literacy programs and workshops.

- On boarded TreDs platform and mulling considerable growth under MSME through the Platform.

- Strengthening SME processing centers with increase in FOS and relationship managers.

- Targeting growth under MUDRA, STAND UP INDIA, PMEGP, NULM Schemes.

- Conducting customers meet in all branches to increase customers' wallet share, referral business and removing bottlenecks, if any.

- Leveraging new norms under CGTMSE.

- Identification of all SMA-1/2 MSME accounts needing help through the Revival Framework.

- Tie Ups with industries for funding to its backward and forward linages, under MSME through Channel Credit.
- Organizing mega disbursement camps through Ghar Ghar Dastak program for activation of branches for achieving various regulatory and internal budgets.

**SELECTED PARAMETERS OF BANK OF INDIA FOR THE PERIOD 2015-2016 TO 2017-2018**

Table: 3

(Rs. In Million)

Parameter	2015-2016	2016-2017	2017-2018	Total Increase/Decrease 2015-16 to 2017-18	% Increase/Decrease 2015-16 to 2017-2018
Gross NPA	498791	520445	623285	124494	24.96
Net NPA	279964	253050	282073	2109	0.75
Deposit	5130045	5400320	5208544	78499	1.53
Advances	3591890	3664817	3413802	-178088	-4.96
Net Profit	-60892	-15583	-60437	-455	-0.75

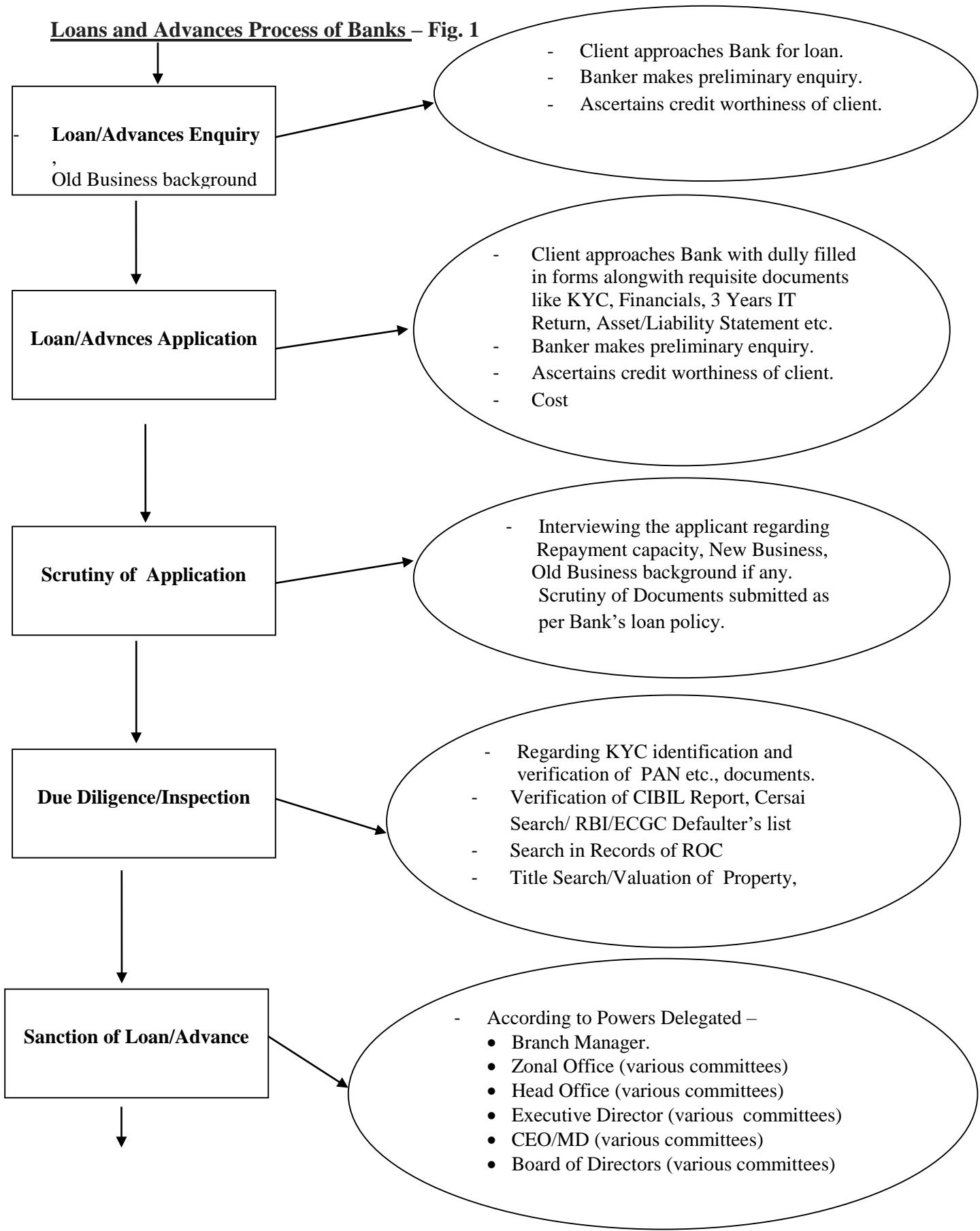**Source: RBI website**

Fig. 1
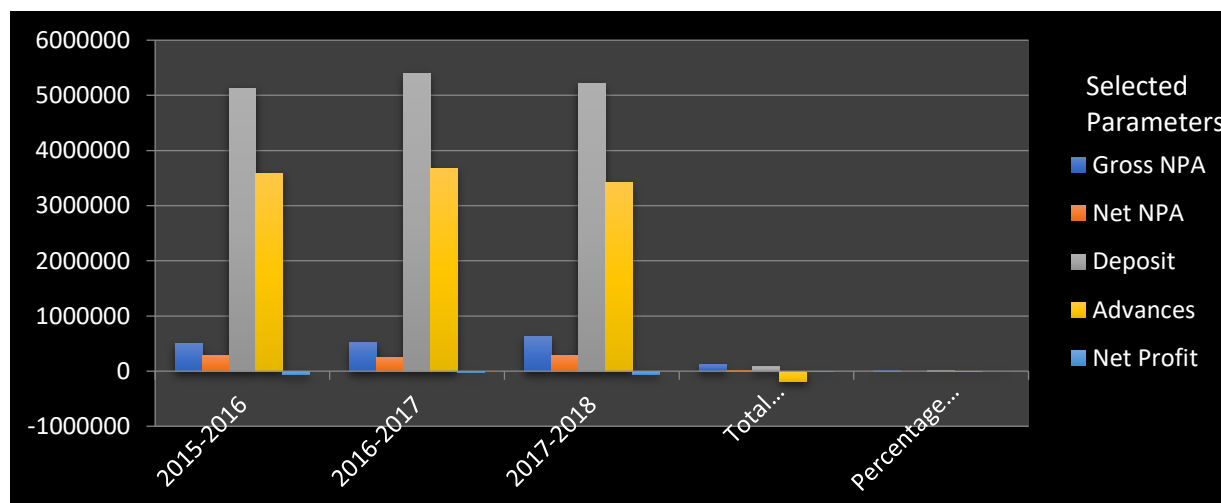
It can be observed from Table 3 that the Gross NPA's of the Bank increased by 24.96%, whereas the Net4 NPA's increased by only 0.75%. The Deposits of the Bank increased by1.53%. The Advances of the Bank reduced by 4.96% and Net Profit of the Bank was slightly reduced by 0.75%.
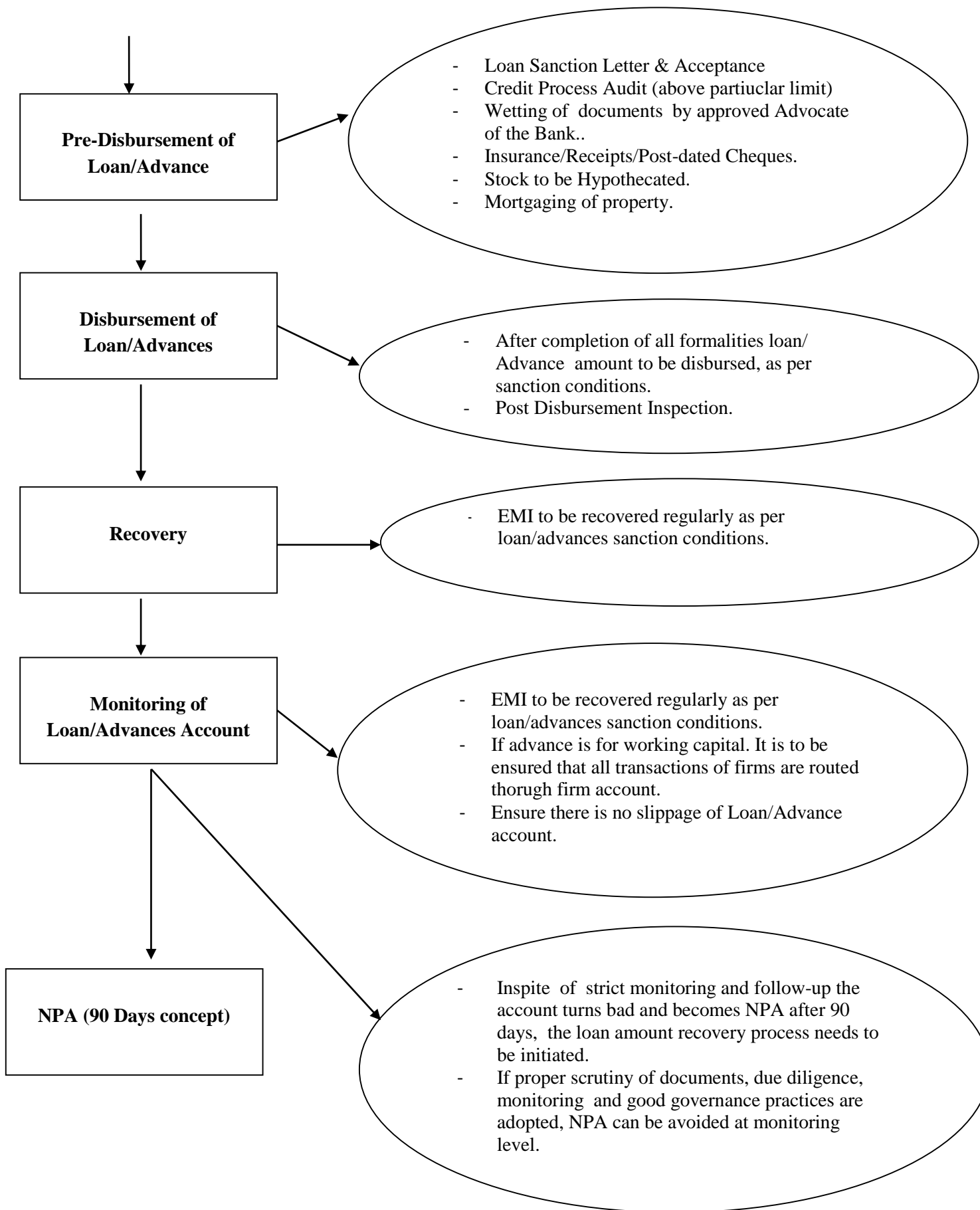
BANK'S LOANS AND ADVANCES PROCESS

As a part of banking, the Banks are making available various products and services to the customers. The Banks extend to its customers personal loan, home loan, car loan, two wheeler loan, three wheeler loan, business loan, education loan, loan against assets, rural loan, loan on credit cards, loan against property, loans for professionals, government sponsored schemes, loan against securities etc., therefore, a look is taken at the general Loans and Advances process of Banks, which is as below:

Loans and Advances Process of Banks – Fig. 1

- **Loan/Advances Enquiry** , Old Business background	- Client approaches Bank for loan. - Banker makes preliminary enquiry. - Ascertains credit worthiness of client.
Loan/Advnces Application	- Client approaches Bank with dully filled in forms alongwith requisite documents like KYC, Financials, 3 Years IT Return, Asset/Liability Statement etc. - Banker makes preliminary enquiry. - Ascertains credit worthiness of client. - Cost
Scrutiny of Application	- Interviewing the applicant regarding Repayment capacity, New Business, Old Business background if any. Scrutiny of Documents submitted as per Bank's loan policy.
Due Diligence/Inspection	- Regarding KYC identification and verification of PAN etc., documents. - Verification of CIBIL Report, Cersai Search/ RBI/ECGC Defaulter's list - Search in Records of ROC - Title Search/Valuation of Property,
Sanction of Loan/Advance	- According to Powers Delegated – • Branch Manager. • Zonal Office (various committees) • Head Office (various committees) • Executive Director (various committees) • CEO/MD (various committees) • Board of Directors (various committees)

Pre-Disbursement of Loan/Advance

- Loan Sanction Letter & Acceptance
- Credit Process Audit (above partiuclar limit)
- Wetting of documents by approved Advocate of the Bank..
- Insurance/Receipts/Post-dated Cheques.
- Stock to be Hypothecated.
- Mortgaging of property.

Disbursement of Loan/Advances

- After completion of all formalities loan/ Advance amount to be disbursed, as per sanction conditions.
- Post Disbursement Inspection.

Recovery

- EMI to be recovered regularly as per loan/advances sanction conditions.

Monitoring of Loan/Advances Account

- EMI to be recovered regularly as per loan/advances sanction conditions.
- If advance is for working capital. It is to be ensured that all transactions of firms are routed thorough firm account.
- Ensure there is no slippage of Loan/Advance account.

NPA (90 Days concept)

- Inspite of strict monitoring and follow-up the account turns bad and becomes NPA after 90 days, the loan amount recovery process needs to be initiated.
- If proper scrutiny of documents, due diligence, monitoring and good governance practices are adopted, NPA can be avoided at monitoring level.

Conclusion

The analysis of the Table 10 indicates that the performance of the Bank for the period 2015-2016 to 2017-2018 was not satisfactory. Shri Melwyn Rego was MD & CEO for the period August 14, 2015 to May 5, 2017 and Shri Dinabandhu Mohapatra is MD & CEO from May 5, 2017 till date. Shri Melwyn Rego was given charge as MD & CEO of Syndicate Bank from July 01, 2017 to August 13, 2018; it therefore, indicates that the Bank did not perform well during the leadership of Mr. Melwyn Rego. It therefore, indicates that the issues seems to be Corporate Governance related. The Bank must therefore, re-visit the Khandelwal Committee Report's recommendations on HR issues. Also the Bank must re-visit the recommendations given by the Committee set up by RBI to Review Governance of Boards of Banks in India. Also, a suitable Corporate Governance Model needs to be put in place by the Government of India and Reserve Bank of India for the efficient performance of Bank of India.

The MSME Sectors are considered as growth divers of our economy and have shown continued dynamism in terms of their contribution to national economy. The MSME sector accounts for significant share in employment, number of enterprises, manufacturing output and exports. Over the years, the sector has emerged as a nursery of entrepreneurship and bedrock of innovations, resulting in diversified development and import substitution. Entrepreneurial efforts and individual creativity have made it possible to develop new variants of the same base products with additional features that are unique and more user friendly. Holistic development of the MSME sector has been a priority of Government of India due to its significant contribution towards economic growth, employment generation, balanced regional development, overall poverty reduction and emergence as an important vehicle for attaining inclusive growth in the country. However, a lot needs to be done for Government policies to reach grass root levels. The Bank will therefore, have to overcome its Corporate Governance related issues for better performance in the years to come. The following models are suggested to the Bank for growth in their MSME initiatives.

Model – I – Growth Model

- **Tapping Local Industry Bodies** - The local industry bodies can be great enables for Bank's MSME initiatives, they need to be tapped in small towns across the country, so that the tier to cities can emerge as centres of excellence.

- **Niche Industries** – The smaller cities in India have the capability of nurturing niche industries, small cities/towns where there is scope for engineering industries must be looked into. This is where the growth for tomorrow will come from. Intervention of technology and integrated logistics here can have appreciable impact on the fortunes of the producers.

- **Startups as enablers for MSME Industry** - The cities/towns with decent Startup ecosystem can experience vibrant growth shortly. As the Startups are linked to the challenges of MSMEs, can potentially start another industrial revolution.

- **Leveraging Internet** – Most of Chambers and Associations of Business are not yet having updated websites. Since the world is platform, and the industrial bodies can use this e-platform to exchange information, thoughts and assignments for their products.

- **Attention to Shadow Region Industries** – The Bank must try to find out the places, where most of the local businesses are dependent on some large factories/mills. Rendering attention to such shadow region industries will help to expand MSME network.

- **Encourage entrepreneurs to think for tomorrow** – The Bank must encourage the entrepreneurs to think for tomorrow, as there is a tendency amongst them to think of today i.e. to get the orders first and to deliver them, rather than to think to build business in a planned manner. They tend to operate in a survival mode. Thus change in mind set needs to be made.

- **Expanding the business to Next Generation** – The children of the first entrepreneurs are now not keen in taking up the family business and growing it, but rather prefer to take up higher studies abroad and settle there. There is a need to educate the entrepreneurs to encourage their next generation to expand the family business and it is now possible due to e-growth.

Model II – HR/Governance/NPA Management Model –

- Opening up of separate department to oversee the Governance/NPA management related issues of the Bank.

- Recruitment of Qualified and Experienced Staff for overseeing and framing policies related to Governance and NPA Management.

- A dedicated Committee exclusively for looking after the NPA and its Recovery and sanction of loans and advances may be formed under the charge of Executive Director of the Bank.

- Motivation/Training, Placement and Retention policies of the Bank to be reviewed from time to time.

- Different level of powers for approval/sanctioning of loans and advances to all the Sectors should be reviewed and new benchmark of authority may be specified and made accountable for the loss to the Bank.

- Policies related to granting of Advances and NPA Management should be finalized at Board level, after deliberating/approving the same in NPA Management Committee meetings.

- Bank should take a review of its One Time Settlement (OTS) of outstanding loans policy and ensure that at least 75-80 percentage of outstanding loan amount is recovered. The OTS Scheme of the Bank should not become like 'Loan Mela Scheme'

LIMITATIONS AND SCOPE FOR FUTURE STUDY

Limitations –

The Limitations of the Study is that it is based on secondary data available on the website of Reserve Bank of India and Bank of India Annual Report for the period of three years only.

Scope for Future Study -

A further detailed study of the Bank for ten years may be done to test the performance of the bank.

References:

Journals

[4] Munda Santosh Kumar and Swain Sukhamaya [2014] – "Micro, Small and Medium Enterprises (MSME) in India: Financing by Banks." International Journal of Business and Management Invention – ISSN (Online):23192018, ISSN (Print):2319-801X – www.ijbmi.org, Volume 3, Issue 1, January 2014, PP.07-16.

 [5] Dr. Venkatesh J and Ms. Kumari Lavanaya R - "Performance of Mudra Bank: A Study on Financial Assistance To MSME Sector" – International Journal of Research in Economics & Social Sciences – Volume 5, Issue 7 (July, 2015) – ISSN 2249-7382.

Website

Source for secondary data

[1] https://socialinnovation.org

[2] Bank of India Annual Report 2017-2018.

[3] https://economictimes.indiatimes.com/small-biz/sme-sector/how-alternative-lending-models-are-facilitating-better-access-to-credit-for-the-msme-sector/articleshow/67298802.cms

[6] http://www.dcmsme.gov.in/ssiindia/defination_msme.htm

[7] https://www.rbi.org.in

ARTIFICIAL NEURAL NETWORKS IN RATIO ANALYSIS FOR FINANCIAL HEALTH CLASSIFICATIONS

Selvan Simon
MSc, MPhil, ADCSSAA, DCM
SNDT Women's University

ABSTRACT

Financial performances of companies are published in the form of annual and quarterly reports, balance sheets, income statements, etc., as mandated by the regulatory authorities. Financial ratios derived from these reports allow us to compare companies and estimate the position of a company in the market. Since these databases are updated normally on yearly, half-yearly, or quarterly basis, the ratio analysis is the most suitable approach for long-term financial decisions. More specifically, strategic financial decisions on companies are based on some kind of classification. A classification models are trained to assign a set of companies into predefined groups. In finance, they classify companies based on financial health by analyzing their financial ratios. The aim is to prognosis financial conditions of companies like financial distress, bankruptcy, failure, insolvency, decline, growth, etc. In recent decade, many studies adopted machine learning algorithms for financial prediction. Among them, Artificial Neural Networks (ANN) is predominantly applied for financial predicaion. However, most of the ANN models are for time-series forcasting to understand market trends for short-term financial decisions. This paper surveys the predictive models that employed ANN in ratio analysis for financial health classification of companies for long-term financial decisions. It delves the extant financial analytic models to identify the best practices adopted for improving the classification accuracies. Finally, the paper enumerates the scopes for futher studies in this booming area of research.

KEYWORDS

Artificial neural networks, ratio analysis, predictive analytics, classification models, classification accuracy, long-term investment, decision support systems

INTRODUCTION

There has been consistent attempt by Data Mining (DM) researchers to improve the classification accuracy of the prediction models. Artificial Neural Network have been experimented in ratio analysis. Nevertheless, every soft computing tool has its own strengths and weaknesses. Hence, hybrid intelligent models, integrating two or three artificial

intelligence tools have become popular research area, for improving accuracy. Artificial Neural Networks (ANN) is by far the most dominant machine learning (ML) techniques in stock prediction (Dase & Pawar, 2010; Simon & Raoot, 2012a, 2012b; Soni, 2011). This paper surveys ANN models in the extant literature that use ratio analysis for the financial classification of companies.

The paper is organised as follows: section 2 briefly explains the various prediction problems and their importance for long-term stock investments and other major financial decision making. In section 3, I have presented the concepts of ANN required for understanding the standard practices. In section 4, I have reviewed the candidate models and tabulated the highlights. I have concluded the paper with my survey findings in section 5. Finally, I have listed many research gaps under the scope for further studies in section 6.

COMPANY HEALTH PROGNOSES FOR STRATEGIC DECISIONS

These survey classification models analysed financial performance of companies for the following purposes:

- Stock selection
- Bankruptcy prediction
- Enterprise credit risk prediction
- Enterprise decline prediction

Classifications of Returns

Fundamental analysis involves studying the economy, industry, and company related attributes to measure the intrinsic value of a company. It is based on financial performances of companies that they are mandated to publish regularly, for example, annual and quarterly reports, auditor's reports, balance sheets, income statements, etc. (Afolabi & Olude, 2007; Al-Qaheri, Hassanien, & Abraham, 2008; Esfahanipour & Mardani, 2011). Financial ratios are used for estimating the position of a company. Since these databases are updated normally on yearly, half-yearly, or quarterly basis, the fundamental analysis is suitable approach for long-term investments (Samaras, Matsatsinis, & Zopounidis, 2008). The portfolio managers may buy stocks with higher scores and sell the stocks with lower scores. However, such stock selection models are useful for low-frequency investments rather than high-frequency trading (Hassan & Clack, 2009). In general, the relative quality of stocks can be described by the various fundamental variables, including share price rationality, growth, profitability, liquidity, efficiency, and

leverage attributes, by assigning a score. Based on these scores one can then rank various stocks and top-ranked stocks can be picked up (C. F. Huang, Chang, Cheng, & Chang, 2012).

Classification of Risks

Under global market economy conditions, due to fierce competition, uncertainty of business environment, poor management, and difficulties in operating successfully in the market, it inevitably results in corporate financial distresses. A business failure occurs when the firm has chronic and serious losses and/or when the firm becomes insolvent with liabilities that are disproportionate to assets. It not only makes the company's equity and debt holders suffer great economic loss but also directly affect its survival and development, leading to bankruptcy (Gestel et al., 2006). Therefore, accurate corporate financial distress prediction and bankruptcy prediction models are of critical importance. From a managerial perspective, business failure forecasting tools allow to take timely strategic actions to avoid deterioration of financial state and even bankruptcy. More importantly, it provides timely warnings to investors and shareholders. Moreover, these models can be useful in aiding decision-makers of financial institutions in evaluation and selection of the firms (Ahn, Cho, & Kim, 2000; Gestel et al., 2006).

ARTIFICIAL NEURAL NETWORK AND ITS STANDARDS

Artificial Neural Networks (ANN) is based on complex mathematical models to emulate the human pattern recognition function. It consists of fundamental processing elements called *neurons* distributed in few hierarchical layers. Most of the neural networks are three layered: input, hidden, and output. Generally, there occurs no data processing at the input layer. The *input layer* takes the input signals and passes to the hidden layer. There can be more than one hidden layer. The hidden layers do all complex computations. Figure 2 shows a graphical representation of an ANN (Majumder & Hussian, MD, 2010).

A neuron receives an input signal, which transmits through a connection that multiplies its strength by the weight w. Each neuron has a bias b that is added to the weighted input. The signal is passed through an activation function (e.g., sigmoid function) to get the desired output. In ANN, a neuron maps a set of input variables $\{X_i\}$, i=1,$\cdots$,n to a set of output variables $\{Y_j\}$, j=1,$\cdots$,m. Figure 2 illustrates the function of a single neuron. The weight w and the bias b are adjustable parameters of the neuron. They are adjusted to reduce errors through an iterative training process while training samples are presented to the network. This training process continues until the error reduced to an acceptable level. It stores the captured knowledge during

training for future applications on unseen data (Han, Kamber, & Pei, 2012). Now, we introduce the standard forms of neural networks that were employed in ratio analysis for the classification of companies:

Feed-Forward Neural Network (FFNN)

It the simplest type of ANN, wherein, the interconnections between the units do not form any directed cycle. The information moves only in forward direction: from input nodes, through hidden nodes, to output nodes. FFNN often have one or more hidden layers of sigmoid neurons followed by an output layer of linear neurons.

Back-Propagation Neural Network (BPNN)

It is the most commonly used type of ANN. It utilizes the backpropagation algorithm for training the network. When an actual output and the target does not comply, the error is back propagated by the output layer to adjust the weights in hidden and input layers. It uses the generalized delta rule in the calculations of weights.

Multi-Layer Perceptron (MLP)

MLP is a form of FFNN. It consists of one or more hidden layers, with each layer fully connected to the next layer. Both, in the hidden layers and the output layer, each neuron has a non-linear activation function. It utilizes backpropagation algorithm for training.

Adaptive Neuro-Fuzzy Inference Systems (ANFIS)

It is a hybrid technology that combines both the inference capabilities of fuzzy systems and the learning feature of neural networks. The advantage of fuzzy systems is the interpretability of their rules but adjusting of their membership functions is difficult in the developing phase. Neuro-fuzzy overcomes the problems arising from both fuzzy systems and neural networks.

Radial Basis Function Network (RBFN)

It is a feed-forward neural network with exactly three layers: input layer, basis function layer and output layer. The activation functions of the units in the hidden layer are the Gaussian radial basis functions $\exp(-\|x-C_j\|^2/2\sigma_j^2)$, where $j=1,\ldots,n$.
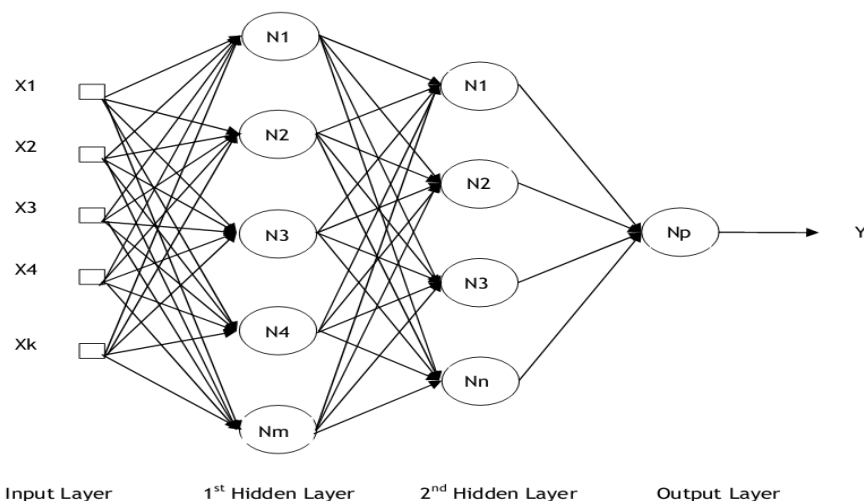
Figure 1. Graphical representation of ANN (Source: Majumder & Hussian, MD, 2010)

$$Y = f(wX + b)$$
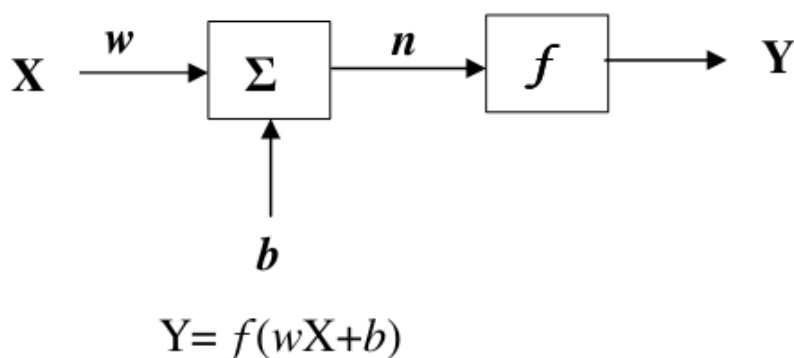
Figure 2. The mapping by a single neuron (Source: Majumder & Hussian, MD, 2010)

ANN RATIO ANALYSIS FOR FINANCIAL PERFORMANCE CLASSIFICATION

This section reviews the extant ML models in ratio analysis that employed ANN for financial classifications. Table 1 presents the gist of these models. The following subsections review these models on issues concerning experimental designs, in nutshells.

Relative Strength Prediction for Improving Return

     Quah & Srinivasan (1999) proposed a BPNN stock selection model to choose stocks that outperformed the market by 5% and to avoid stocks that underperformed the market by 5%. The aim was to beat the quarterly return of the market, the SESALL index, on portfolio basis. The financial ratios and performance factors of the stocks such as yield, growth, momentum, risk, and liquidity were used as inputs. The dataset included the quarterly stock prices and financial variables from 1993 to 1996. They adopted the moving window system with three quarters as training sample and the subsequent quarter as testing sample. It was a

quarterly re-balancing strategy: top 25 stocks with the highest predicted output values were selected to form portfolio at the beginning of the quarter and the return of the portfolio was assed at the end of the quarter. The model performance was measured by the excess returns over the market. The BPNN portfolios outperformed the market in 10 out of 13 testing quarters with excess returns of 127.48% for 13 quarters and annualized compounded return of 36.5%.

Yildiz (1999) studied predicting stock returns using ANFIS for fundamental analysis. The dataset consisted 18 financial ratios of 958 firms traded in the Istanbul Stock Exchange during 1992-1999, which included manufacturing, commercial, and service firms. The twelve-months average return of the firm was used as output. After the training process, the outputs of the model were used as rating scores. For each year, the stocks were sorted based on scores and divided into four portfolios. Validation of the model was conducted at the portfolio level that examined whether a high score portfolio outperformed the low score portfolios, as well as the market portfolios. Even though there was not any statistically significant difference, the ANFIS model provided a slightly higher return than benchmark portfolios. Hence, the author concluded that the study should be repeated with more data, new variables, better rules, and fine-tuned membership functions.

Olson & Mossman (2003) compared BPNN, ordinary least squares (OLS), and Logit for forecasting stock returns one year ahead. They used 61 accounting ratios and financial variables calculated at the beginning of each fiscal year as predictor variables. These ratios included book to market value, earning-price, price-sales ratio, current and quick ratios, inventory turnover, debt-equity ratios, return on equity, etc., as well as annual percentage changes in many ratios. The sample comprised 2,352 observations of medium and large sized firms during 1976 to 1993. The most recent six-year data were rolled forward each year to forecast the annual returns. The market adjusted abnormal returns for the fiscal year was the response variable. Based on forecasted returns for next fiscal year, they developed three portfolio strategies using median, quartile, and octile cut-offs: buy stocks from above-median, top-quartile, top-octile and sell-short stocks from below-median, bottom-quartile, and bottom-octile, respectively. They constructed models for point estimation and classifications using four, eight, and sixteen categories. The BPNN models outperformed its regression alternatives, both in point estimation and in classifications. The classification models outperformed the point estimation models. Moreover, the classification models using four and eight categories gave better results. The model arbitrage portfolio returns for the eight-category BPNN classifications

with median, quartile, and octile cut-off were 8.03%, 14.10%, and 16.41%, respectively, the highest among models.

Vanstone et al. (2004) used BPNN for fundamental analysis to enhance the stock selection process. The model used the closing price, PE ratio, ROE, dividend payout ratio, and book value for input variables. The dataset included ten years' data of Australian Stock Exchange for period 1994 to 2003. The data was divided into 80:20, first eight years' data was used to predict the known results of last two years. The strategy was to buy stocks as soon as indicated by the filter, and hold them until they were appreciated by 100%. The model classified a stock as winner, if it was appreciated in value more than 100% within one year, and loser, otherwise. The BPNN model performance was compared with a basic filter by Aby et al., and the naive buy-and-hold strategy. The BPNN showed a significant higher percentage of selected trades increasing by 100%.

Quah (2008) applied ANN for fundamental analysis in equities screening. He compared three models, viz., MLP, ANFIS, and general growing and pruning radial basis function (GGAP-RBF). These models classified a stock that appreciated in share price value equal or more than 80% within one year as Class-1, otherwise as Class-2. The study utilized eleven fundamental variables for input. A dataset of 1630 equities during 1995 to 2004 was used in experiments. He applied the over-sampling technique on Class-1 to balance the majority Class-2 samples in the training set. Following the 80:20 rules, the data of first eight years was used to predict for the last two years. The results showed a positive relationship between predictions of the trained neural networks with the next year share price appreciation. The recall rates for MLP, ANFIS, and GGAP-RBF models were 62.787%, 62.538%, and 54.51%, respectively. Moreover, the average appreciation of the top-ten signaled equities using MLP, ANFIS, and GGAP-RBF models were 55.15%, 51.66%, and 46.39%, respectively, whereas the average market appreciation, 22.99%.

Krishna Kumar et al. (2010) employed BPNN to select stocks listed on the Bombay Stock Exchange (BSE). The model used fundamental analysis with ten financial ratios. The sample comprised BSE 500 during the period 1995 to 2005. To evaluate, each year, they constructed three equally weighted portfolios including 10, 20, and 30 stocks with the highest predicted returns. These portfolios constructed using BPNN significantly outperformed the Sensex. The returns from the BPNN model had smaller variation than that of the full sample. Moreover, the BPNN value buy-and-hold outperformed the usual Sensex buy-and-hold

strategy. For instant, for the period 1995 to 2006, value buy-and-hold portfolio with 10 stocks had a compounded return of 1,804.95%, comparing to Sensex return of 224.08%.

Hargreaves & Hao (2013) constructed a framework for class predictions on stock performances. They used a combination of technical and fundamental information for stock selection. They designed five different trading strategies using personal trading, C5.0 decision tree, CHAID decision tree, BPNN, and Logit. These models classified stocks into two categories: stocks likely to increase in price and stocks likely to decrease in price, over the next 20 trading days. They selected 6 winning stocks from 69 industrial stocks to construct portfolios. Out of the 43 stocks which increased in price, 42, 37, 40, and 35 of them were correctly predicted by C5.0, CHAID, BPNN, and Logit models, respectively. Moreover, the model portfolios significantly outperformed the Australian ordinary index.

Financial Crisis Prediction for Avoiding Risk

Ahn, Cho, & Kim (2000) proposed a hybrid intelligent model, combining RS and ANN, that predicted company's failure based on their past financial performance. They reduced the number of evaluation criteria such as financial ratios and qualitative variables using RS. The reduced information table was then used for developing classification rules and training ANN. The rationale of the hybrid system was utilizing the rules developed by RS for an object that matched any of the rules and ANN for an object that did not match any of them. They used the financial data of Korean firms and k-fold validation for their experiments. The proposed model outperformed the discriminant analysis and neural networks.

Feng & Kong-lin (2008) proposed a hybrid intelligent system using RS and ENN for predicting risk grades. It provided a decision support system for commercial banks to monitor the loan enterprises credit. The credit risk was graded using five categories, namely, normal, concerned, subordinated, suspicious, and loss loans. They extracted financial data of 2,193 large and medium-sized loan enterprises from a loan database. There were fewer cases of subordinated, suspicious, and loss loans in the initial sample. Hence, they selected all the subordinated, suspicious, loss loan cases and then randomly selected equal number of normal and concerned firms. The final sample included 698 firms. They considered 17 indicators based on literature and further employed RS to remove redundant attributes. The reduced data was then used to develop classification rules and train the ENN. The ENN used the squared error function to modify the weights. They compared the proposed hybrid model with the Logit model. The classification accuracy of their hybrid model (83.19%) was higher than the Logit model (77.31%), on testing samples.

Cao, Chen, Wu, & Mo (2011) proposed a hybrid model using RS and BPNN to give early warning whether enterprises will fall into a decline stage. They added an attribute reduction layer using RS, to avoid the problem caused by noise data and redundant data during training the network. They used a BPNN with two hidden layers and applied the Levenberg–Marquardt algorithm to enhance the speed of convergence. They determined the number of nodes in the hidden layers using trial-and-error method. They developed three distinct BPNN models for three different periods of years prior to the firm falling into a decline stage, respectively. The prediction based on the training samples yielded good accuracy rates in those three different models. Results also indicated that prediction of whether the firm will fall into a decline stage within one or two years yielded high accuracy.

5. CONCLUSION

In the above studies, the models used ANN for the classification of companies using ratio analysis. These models had the objective of either improving return or reducing risk. Therefore, we conclude that the ANN can enhance long-term financial investments. These models can be further developed into full-fledged decision support systems to help investors, managers, directors and creditors for strategic financial decisions.

6. SCOPE FOR FURTHER STUDY

There are ample opportunities for further studies in this area of research:

- Develop accurate forecasting models using various ML algorithms for stock selection
- Apply fundamental analysis for different stock markets
- Determine whether stock selection models are effective for Indian stock market
- Find the optimal historical records to be included in the training set
- Compare various traditional and intelligent forecasting models for accuracy
- Include different set of financial ratios as condition attributes for model improvements
- Develop hybrid intelligent models to incorporate parameters optimization
- Develop hybrid intelligent models to incorporate feature engineering techniques
- Apply deep learning to check for feasibility of this new techniques to ratio analysis
- Creat prediction rule sets for further analysis on relations among the ratios

Table 1. Ratio analysis using artificial neural networks

Study on ratio analysis	ML used for dimension reduction/classification	Prediction horizon/ Target	Analysed companies belonged to/models compared
Quah & Srinivasan (1999)	BPNN	quarterly	SESALL index
Yildiz (1999)	ANFIS		Istanbul Stock Exchange
Ahn et al. (2000)	RS, ANN	Bankruptcy	DA, ANN, RNN1, RNN2
Olson & Mossman (2003)	BPNN, OLS, Logit	yearly	Toronto stock exchange
Vanstone et al. (2004)	BPNN	yearly	Australian Stock Exchange
Feng & Kong-lin (2008)	GA+RS, ENN	Enterprise credit risk	Logit
Quah (2008)	MLP, ANFIS, GGAP-RBF	yearly	DJIA
Krishna Kumar et al. (2010)	BPNN	yearly	BSE500
Cao et al., (2011)	RS, BPNN	Enterprise decline	Actual value
Hargreaves & Hao (2013)	DT, BPNN, Logit		Australian stock market

REFERENCES

Afolabi, M., & Olude, O. (2007). Predicting stock prices using a hybrid Kohonen self organizing map (SOM). In *40th Annual Hawaii International Conference on System Sciences (HICSS'07)* (pp. 1–8). IEEE.

Ahn, B. S., Cho, S. S., & Kim, C. Y. (2000). The integrated methodology of rough set theory and artificial neural network for business failure prediction. *Expert Systems with Applications*, *18*(2), 65–74.

Al-Qaheri, H., Hassanien, A., & Abraham, A. (2008). Discovering stock price prediction rules using rough sets. *Neural Network World Journal*.

Cao, Y., Chen, X., Wu, D. D., & Mo, M. (2011). Early warning of enterprise decline in a life cycle using neural networks and rough set theory. *Expert Systems with Applications*, *38*(6), 6424–6429.

Dase, R., & Pawar, D. (2010). Application of Artificial Neural Network for stock market predictions: A review of literature. *International Journal of Machine Intelligence, ISSN*, *2*(2), 0975–2927.

Esfahanipour, A., & Mardani, P. (2011). An ANFIS model for stock price prediction: The case of Tehran stock exchange. *International Symposium on Innovations in Intelligent Systems and Applications (INISTA)*, 44–49.

Feng, X., & Kong-lin, K. (2008). Five-Category Evaluation of Commercial Bank's Loan by the Integration of Rough Sets and Neural Network. *Systems Engineering - Theory & Practice*, *28*(1), 40–45.

Han, J., Kamber, M., & Pei, J. (2012). *Data Mining Concepts and Techniques* (3rd ed.). Morgan Kaufmann.

Hargreaves, C., & Hao, Y. (2013). Prediction of stock performance using analytical techniques. *Journal of Emerging Technologies in Web Intelligence*, *5*(2), 136–142.

Hassan, G., & Clack, C. (2009). Robustness of multiple objective GP stock-picking in unstable financial markets. In *GECCO'09 Proceedings of the 11th Annual conference on Genetic and evolutionary computation* (pp. 1513–1520).

Krishna Kumar, M. S., Subramanian, S., & Rao, U. S. (2010). Enhancing stock selection in Indian stock market using value investment criteria: An application of artificial neural

networks. *The IUP Journal of Accounting Research and Audit Practices*, *9*(4), 54–67.

Olson, D., & Mossman, C. (2003). Neural network forecasts of Canadian stock returns using accounting ratios. *International Journal of Forecasting*, *19*(3), 453–465.

Quah, T.-S. (2008). DJIA stock selection assisted by neural network. *Expert Systems with Applications*, *35*(1–2), 50–58.

Quah, T.-S., & Srinivasan, B. (1999). Improving returns on stock investment through neural network selection. *Expert Systems with Applications*, *17*(4), 295–301.

Samaras, G. D., Matsatsinis, N. F., & Zopounidis, C. (2008). A multicriteria DSS for stock evaluation using fundamental analysis. *European Journal of Operational Research*, *187*, 1380–1401.

Simon, S., & Raoot, A. (2012a). Accuracy driven artificial neural networks in stock market prediction. *International Journal on Soft Computing*, *3*(2), 35–43.

Simon, S., & Raoot, A. (2012b). Competitive artificial neural network models in stock market prediction. *Indore Management Journal*, (Special Issue), 335–347.

Soni, S. (2011). Applications of ANNs in stock market prediction: a survey. *International Journal of Computer Science & Engineering Technology*, *2*(3), 71–83.

Vanstone, B., Finnie, G., & Tan, C. (2004). Enhancing security selection in the Australian stockmarket using fundamental analysis and neural networks. *Bond University EPublications@bond*.

Yildiz, B. (1999). Fundamental analysis with neuro-fuzzy technology: An experiment in Istanbul stock exchange. *Sbd.Ogu.Edu.Tr*, *8*(2), 25–42.

The digitisation of politics: Not for propaganda but for interaction by changing indirect democracy to direct democracy

Akshay D. Kale
MMS Student,
Jamnalal Bajaj Institute of Management Studies, Mumbai

Abstract:

Social media are fundamentally changing the way we collaborate, communicate, create, and consume. They represent one of the most transformative impacts of information technology on social life, both within and outside firm boundaries.

People's personal lives are covered by Facebook and their professional lives by LinkedIn, but that still leaves their civic lives which is the most important aspect of human social life. Politics is scattered over the different media based on their opinion and one-sided bombarding of views.

Issues like the accessibility of politics to each segment of society by overcoming nepotism, high campaign fund requirements, lack of initiative platforms for the constructive citizens to raise movements and generate local support and centralisation of politics instead of a constituency-wise view.

The objective of this paper is to demonstrate the design of digital platform which will provide constituency wise access to aspiring and established politicians to know actual viewpoints of the society with the voting system and also to citizens to raise the issues and to generate the supporting vote base to show majority to politicians. This system can restrict the fake news as true politicians can directly reach to voters achieving the objective of the direct democracy by utilising an existing system of the representative democracy.

Keywords: Direct and Indirect democracy, Representative democracy, Nepotism, Internet-based system.

Introduction:

Since the time of the ancient Greek states, both the theory and the practice of democracy have undergone profound changes. Thus, for many centuries the kind of association in which democracy was practised, the tribe, the city or the state, was small enough to be suitable for some form of democracy by the assembly, or "direct democracy." Much later, beginning in the 18th century, as the typical association became the nation-state or country, direct democracy

gave way to representative democracy—a transformation was so different that, from the perspective of an ancient Athens, the governments of huge associations such as France or the United States might not have appeared democratic at all. Main factors for change were limitations of mediums and high cost to reach each and every citizen of a state. That lead to issues of nepotism, discouragement for participation and deception by the politicians by following own agenda instead of the needs of the citizens. But with the use of digital technology in every aspect of society accessibility and reach to every corner of society is possible now. With the appropriate use of technology, we can create systems of the future that can overcome the traditionally assumed limitations and can achieve new levels of efficiency and coordination.

Theoretical Framework:

Current scenario of Indian Politics

During FY 2017-18, BJP declared Rs 553.38 cr as income from unknown sources which is 80% of the total income of National Parties from unknown sources (Rs 689.44 cr). This income of BJP forms more than 4 times the aggregate of income from unknown sources declared by the other 5 National Parties. This extensive parity in the distribution of funds creates a biased environment for other political parties and individual candidates.

Money is becoming the main parameter after nepotism to win elections. There is little scope for ideology or social work to play a big role in elections. Parties with higher funds can buy social sites, media houses, and create a fake environment over the whole internet ecosystem.

Proposition:

One system for entire politics which will give one platform. An unprecedented platform with the sole purpose of connecting the politicians and the Local masses. A platform for the politicians to put forth their propositions and citizens to voice their opinions and take a stand for the proposed ideas. It provides an opportunity for the common man to grow as a politician and to gather the support of voters irrespective of political backing, family background and monetary power.

For any announcement, politicians have to approach media which is entirely biased to their own viewpoints. This will be a platform where politicians can reach people directly without any influence of media thoughts.

Implementation and significance of features of the system:

1)There are four groups or platforms in system three for local, state and central constituencies and one for a closed group of followers to discuss amongst like-minded people:

This feature creates discrete and local groups by avoiding central leadership influence and helps to focus on local issues in politics which are can affect the life of common man.

The feature of a closed group can give a platform to people to discuss the ideas and issues in a closed network or with people who believe in them to reach the final proposition to ask for politicians and other citizens of the same constituency. Due to the discrete nature of groups for individual constituency centralised fake news campaigns can be restricted.

Gramsabhas can be replaced by constituency group and accessible to people who cannot attend the same.

2) In each group, citizens and politicians can speak up their issues and ideas. Other People have to vote for it using three options support, oppose and neutral buttons. Users can give suggestions for the proposed ideas or can write their viewpoints. The one who is entirely against the proposed idea can create response post using speak up in oppose and can gain votes for it.

This will allow common people to say that they are not satisfied with propositions or work by politicians and they want other things politicians to do.

3) For regular engagement, there is feedback system for every activity of users in which for every post if a user gets more than 50% votes user will get medals respective to the constituency. Top 10 medal gainers of each constituency will enter into social prestige club which has special rights.

This will assure people remain active and further increase the engagement of people to show they are a socially responsible citizen of the society.

4) Post from politicians will reach to every citizen of that constituency. Posts will be on top based on time and vote status. Politicians will see a topmost supported post on the top.

This feature ensures that every politician has equal rights and opportunities to reach each and every person of the constituency without restrictions. This will give rise to the new politicians who have fewer resources but the thirst to work for society. Also, politicians can see the most popular issue of a society that affects maximum people and can work to solve.

5) On the basis of propositions, work has been done and its supports (positive votes) politicians will also get medals.

Politicians can get feedback for their work and citizen can elect representatives with a better idea of work done by them and can have a rational decision by seeing medals of politicians.

6) People can support and follow people having the same political interests and can build an alliance.

To show support for any politician or citizen in constituency having great work record one can show recognition of work by supporting (follow option) them. Citizens can send their posts directly to all following citizens and get their views on it to build an alliance for a particular issue by creating pressure on politicians to work.

7) The feature of live addressing to people for politicians.

To give a speech or to address people politicians need a lot of setups to create big Sabhas but the majority of people see it indirectly on TV in a media point of view and forget after few days. This limitation can be overcome using the feature of live speech and storing that speech on the profile of a politician for future reference and accountability of claims.

8) Live debate option if one politician wants to ask some challenging questions to another politician.

This option will allow politicians to challenge other politicians to share thoughts on the same platform to give clarity to voters.

9) Security and credibility using Adhar Id.

Politicians and users will have to authorize themselves using Adhar id. It will prevent fake accounts and give responsibility to all profiles on the platform to speak wisely as they cannot hide.

10) Create movements and generate funds and support

With this feature, a citizen can create movements for the city, state or country for any policy they are against or they want to implement. They will be able to generate support of people and can raise funds for it via digital payment methods keeping all the transactional records. Individual politicians or political parties also can raise funds from people with all transactional records preventing infusion of black money and non-declaration of sources.

Some of the existing systems having a similar purpose

Madame Mayor, I have an idea: an online participatory budgeting exercise in Paris where local residents can campaign and debate how the City budget is spent;

vTaiwan: a consultation process, born of the 2014 Sunflower Movement, designed to crowdsource opinions and create large-scale deliberation on complex policy-issues;

e-Democracia/LabHacker: a parliamentary unit and website to improve government transparency and public understanding of the legislative process in Brazil, creating 'serious games' and appealing data visualisations.

Flow chart of the system:
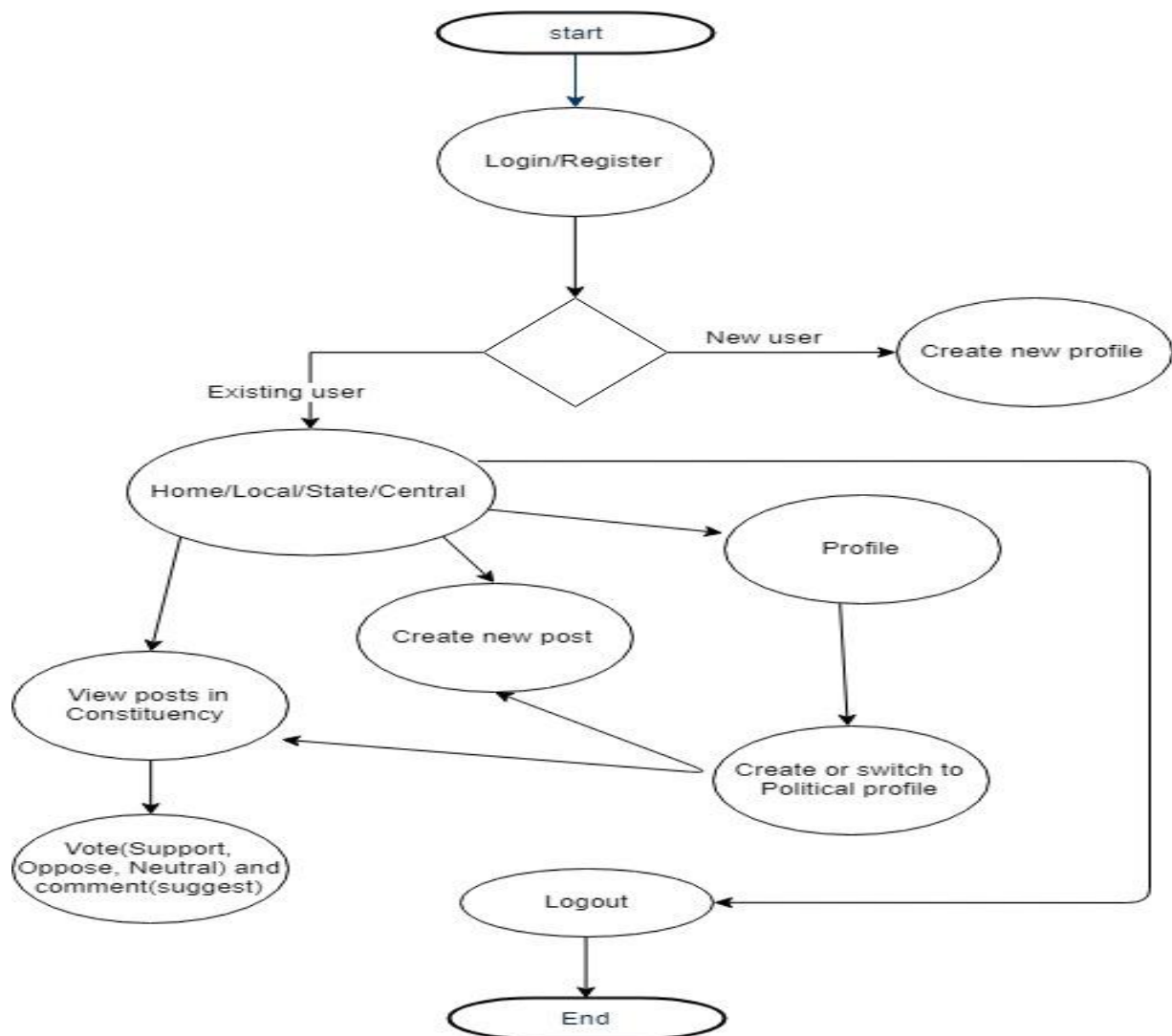
Conclusion:

The proposed system does not focus on to replace the existing democratic system, but it can give the parallel face to democracy which new generation can understand, and which can provide greater accessibility with efficiency. Today's era talks about cryptocurrency, universal basic income and AI takeovers but little about the efficiency and accessibility of the democratic system. If we start implementing such a parallel system, we will eventually able to find an optimum solution by continuously improving it.

Earlier there was lack of supporting systems to implement such systems in social arena but now with Aadhar and all other digital India initiatives, there can be the whole ecosystem which can help to improve our socio-political systems to face new generation challenges.

Sample pictures of the layout of the system:
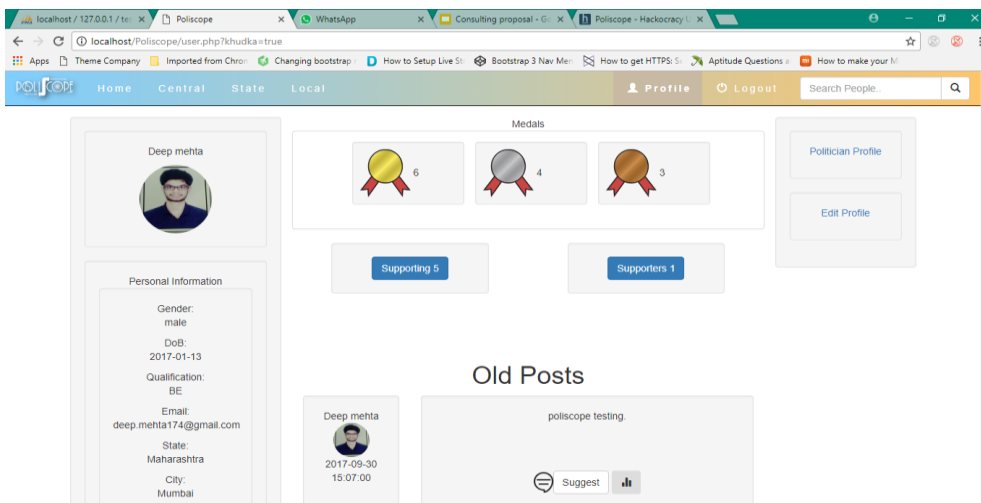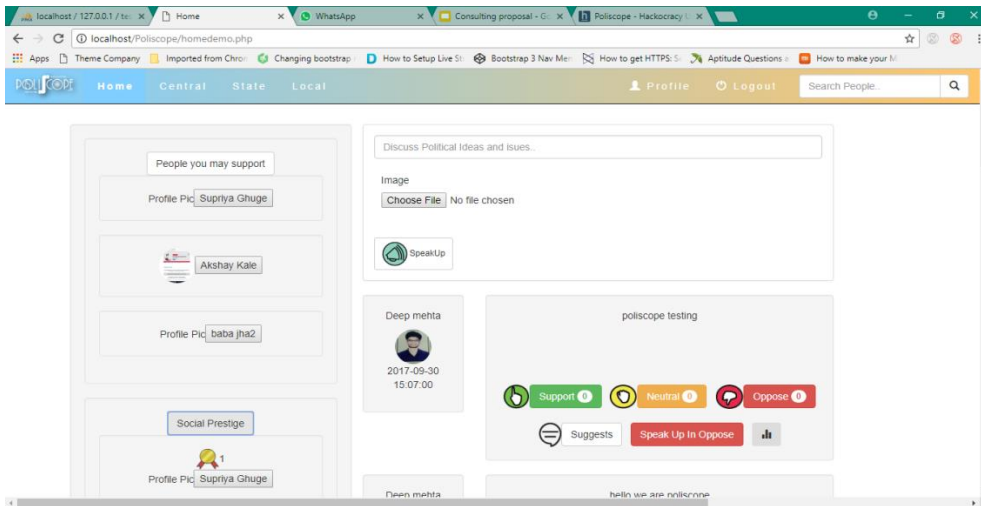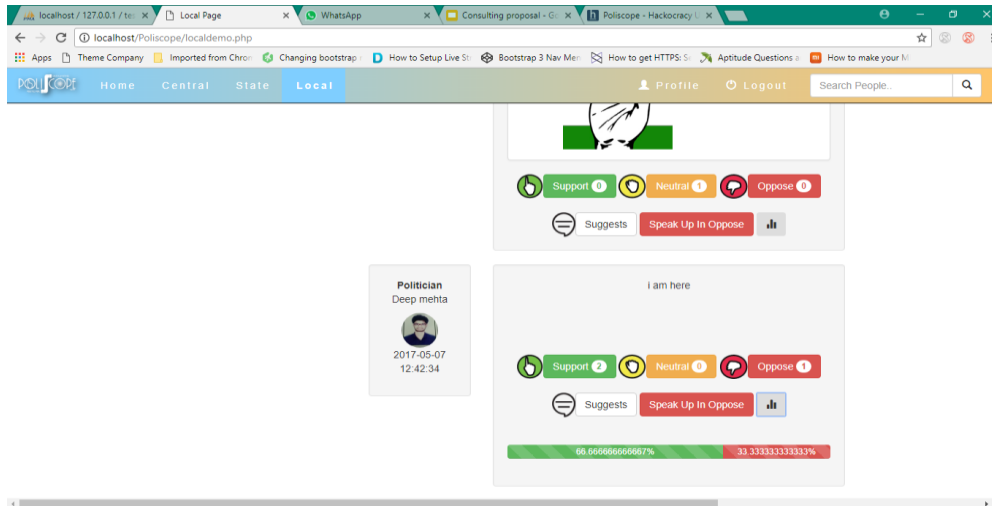
Literature Review:

From ancient time different forms of governments and democracies have been practised in different regions of the world. But the overall shift of direct to indirect democracy is visible. The reason for that was lack of resources to participate in huge population directly. Article Democracy written by Robert A. Dahl last updated on Feb 8, 2019 and published on Encyclopaedia Britannica explains the history of democracy and its different formats throughout history and geography. The existing systems started showing problems of inefficiency and inability to reach masses. Increasing technological advancement and its use in different aspects of life made it available to everyone. Report by Association for democratic reforms on Analysis of Sources of Funding of National Parties of India, FY 2017-18dated 23 Jan 2019 gives detail information about political funds their sources and receivers. It further numbers of the amount and discusses its limitation and loopholes for parties to hide. All the reports on political participation in India show the main issues of nepotism and excessive spend of money in elections.

Further many types of research have been done to study the effect of social networks sites on politics and citizens' response to it. Report by Financial Times dated Oct 30, 2017, titled 'Direct democracy threatens way we are governed' discusses on effects of direct access to politics on the existing system. On foreignpolicy.com article "How Technology Can Restore Our Trust in Democracy" by CENK SIDAR | AUGUST 3, 2016, makes an argument of How our devices making us feel more disconnected than ever. What if we used them to make democracy work better? So effective and well-studied implementation of systems can improve how we interact

with our civic life. The Washington Post posted article "Democracy doomsday prophets are missing this critical shift" written by Bruno Kaufmann and Joe Mathews May 8, 2018, which discusses how different democracies work in the world and how can direct democracy be implemented to avoid prejudice and immediate wash of voter's emotion. Further E-Democracy article on Wikipedia discusses how internet-based system can provide social, economic and cultural conditions that enable the free and equal practice of political self-determination.

References:

1)Prospects for e-democracy in Europe Part I: Literature review. February 2018
DOI: 10.2861/49654 Report number: PE 603.213

2)Financial Times https://www.ft.com/content/73349dae-bd5b-11e7-9836-b25f8adaa111

3)The Washington Post
https://www.washingtonpost.com/news/theworldpost/wp/2018/05/08/direct-democracy-is-thriving/?noredirect=on&utm_term=.4138b76fa936

4)Encyclopaedia Britannica https://www.britannica.com/topic/democracy

5)E-Democracy https://en.wikipedia.org/wiki/E-democracy

6)https://foreignpolicy.com/2016/08/03/how-technology-can-restore-our-trust-in-democracy/

7)https://www.nesta.org.uk/news/power-to-the-people-using-digital-technologies-for-direct-democracy/

After Work Notifications: Contributor towards Employee Stress

Ekta Sinha
PH.D Student
Jamnalal Bajaj Institute of
Management Studies, Mumbai

Dr. Kavita Laghate
Director
Jamnalal Bajaj Institute of
Management Studies, Mumbai

ABSTRACT

As we enter the era of fourth industrial revolution, our life is full of technologies. These technologies have made themselves indispensable in our work-front as well as in our after-work life. One of the known facts is that, Internet and Communication Technologies (ICTs), per se don't cause any comforts or disruptions, it's the people who use them. Today the penetration of ICTs is so deep that creating rigid boundaries is very difficult for employees to escape work notifications in their off-work hours. This study tries to look into the phenomenon (After-Work Notifications) which debilitate this boundary every time. The aim of this study is to investigate the employee experiences when they receive notifications (calls, messages, email etc) related to work, after their work hours via ICTs. This work uses method of exploration to study the phenomenon. The event of work notifications, provide an interesting context for investigation of employees off-work, due to prevalence of arguments in research about the positive impact of ICTs on employee productivity. Undoubtedly with the advent of ICT, and the way we have been using it, our lives have become more comfortable. But there are evidences which indicate that the same delineating boundaries while using ICTs is disturbing the work – life balance of employees. The impact of *after-work notifications(AWNs)* on employee stress level is even more intense as it's almost inevitable to escape internet and other digital platforms (cell-phones, laptop etc) these days. This study by adopting a phenomenological lens for incursion discerns the disruptions and dilemmas that unravel the *After Work Notification Stress (AWNS)* experienced by the employee caught between being a good employee and leading a stress-free off work life.

Key-Words: Employee stress, after work notifications (AWN), Work-life balance, ICT, Boundaries, After Work Notification Stress (AWNS)

INTRODUCTION

Today ICT has entered our lives like never before. Whether it be workplace or space outside work, we are constantly involved with or in some kind of technology i.e. cell-phones, laptops, internet etc. Such ICTs are not less than our body parts, always with us. However, the paper

emphasises that technologies itself are not constructive or intrusive. It solely depends on the users. When technologies are used wisely they can make our lives easy and stress-free at workplace or at off work space. Many organizations have deployed technologies to increase their employees' productivity (Kossek&Lautsch, 2012; Kreineret. al., 2009; Major &Germano, 2006), but unfortunately now a days these technologies are contributing towards stress experienced by employees at work (Ivancevich et al., 1983; Li & Shani, 1991; Sethi et al., 2004;Thong & Yap, 2000). For decades, researchers have explored various reasons and factors which, contribute towards employee stress and in this discourse the role of ICTshave been found to be significant (Day et al., 2012). The proliferations of ICTs have created the opportunity to work at any time and any place (Fenner&Renn, 2004). This allows for greater integration between life at work and life after work, and arguably greater control and flexibility over managing the demands of different role domains (Batt &Valcour, 2003). Although usage of ICTs arelikely to allow for greater temporal and spatial flexibility in managing work demands, such integration (or boundary blurring) may come at a price for an individual. However, studies have highlighted the stress caused due to the (mis)usage of ICTs only at workplace, like longer working hours, increased workload, health impairments etc. (Ninaus K. et al., 2015).

Stress at work place due to ICTs have been widely studied and discussed, but slowly these technologies with their pervasiveness have intruded the private spaces of employees as well, while they are not working. Such events of intrusion can cause stress, role conflict, role ambiguity etc. As a consequence, employee faces such events which are constructed as disruptive given the permeable boundaries that employee has in his work space as well as in off work space.

It is important to emphasis again, that the study specifically looks into the impact of AWN on employees (Figure 1) who receive and respond to such work related notifications using ICTs after their work hours. Such usages of ICTs leave little room for employees to disengage (Robinson, 2006; Zambrowicz, 1998) and cause AWNS.There are very limited researches which highlight the impacts of AWN via ICTs on employees after their working hours. This study looks into this gap and tries to investigate three major questions: why do employees engage in AWN, the perception of employees on AWN and the impact of AWN on employees, for the better understanding of such events.

METHOD

In this study, the researcher attempted to explore the experiences of the employee related to AWN via ICTs after their traditional work hours through a grounded qualitative research approach. This research approach adopted was oriented to understanding the phenomena from the perspective of the participants with their active involvement in capturing each of their narratives (Hammersley and Atkinson, 1994; Van Manen, 1998).

In-depth interviews and interactions were conducted with eight employeesworking with companies in various sectors like, education IT, Bank etc. These employees were actually involve in the phenomena of receiving AWN, so they were able to articulate their experiences with clarity and provided researcher opportunities to get the insight related to such specific events and its impact on employees.

For this research, employees were selected from different organizations through the researcher's professional association and then further references were taken from the respondents about their associates from other organizations using the snowball technique for locating subjects for the study (Patton, 2002). However, care was taken that referrals should not restrict the research to a particular kind of workplace only and care for variation was taken. This helped the researchers to locate narrative sources of employees experiencing the phenomenon of AWN in varied organizationswhich would have been difficult without the snowball approach. A brief profile of the participants is summarized in Table 1 below.

TABLE 1: Brief profile of the participants

S. No.	Pseudonym	Gender	Age	Role/Industry	Qualification	Family Structure	Status of Receiving AWN
1	E	F	36	Academician	MBA- HR, UGC-NET, Pursuing Ph.D.	Nuclear	Frequent
2	P	M	32	Academician	M.Com, UGC-NET	Joint	Frequent
3	R	M	40	Banker	MBA- Finance	Nuclear	Frequent
4	A	M	42	IT	MBA- IT	Nuclear with family support	Frequent
5	M	F	28	CA in a Pvt. Firm	CA	Joint	Frequent

| 6 | G | M | 37 | CA in a Pvt. Firm | CA | Nuclear with family support | Frequent |
| 7 | V | M | 38 | HR in reputed a hospital | MBA- HR | Joint | Frequent |
| 8 | D | F | 29 | HR in reputed a hospital | M.A.- Psychology | Nuclear | Often |

The data for the study was collected in the form of experiential narratives of the participants through conversational unstructured interviews as suggested by van Manen (1998). The researchers started with some initial questions which acted as guidelines (like, Do you use ICTs for your work, Do you receive after work notification? etc) and also to focus on the main issues related to the research. Key issues discussed during interviews were related to factors which guided their decisions to receive and respond to the AWN, their general perception towards AWN via ICTsand the impact of AWN on them.

DATA ANALYSIS

In the process to analyse and make sense of the transcripts, researcher got immersed in the data. This was repeated continuously at multiple stages of the qualitative research journey. Based on this intense process, certain themes were generated which were checked again and again through a systematic and iterative process. Cross-case comparisons were done to cull out broader themes related to the phenomena under investigation. In addition, special care was taken to minimise the chances of researcher's bias to ensure interpretative quality.

PROPOSED CONCEPTUAL MODEL
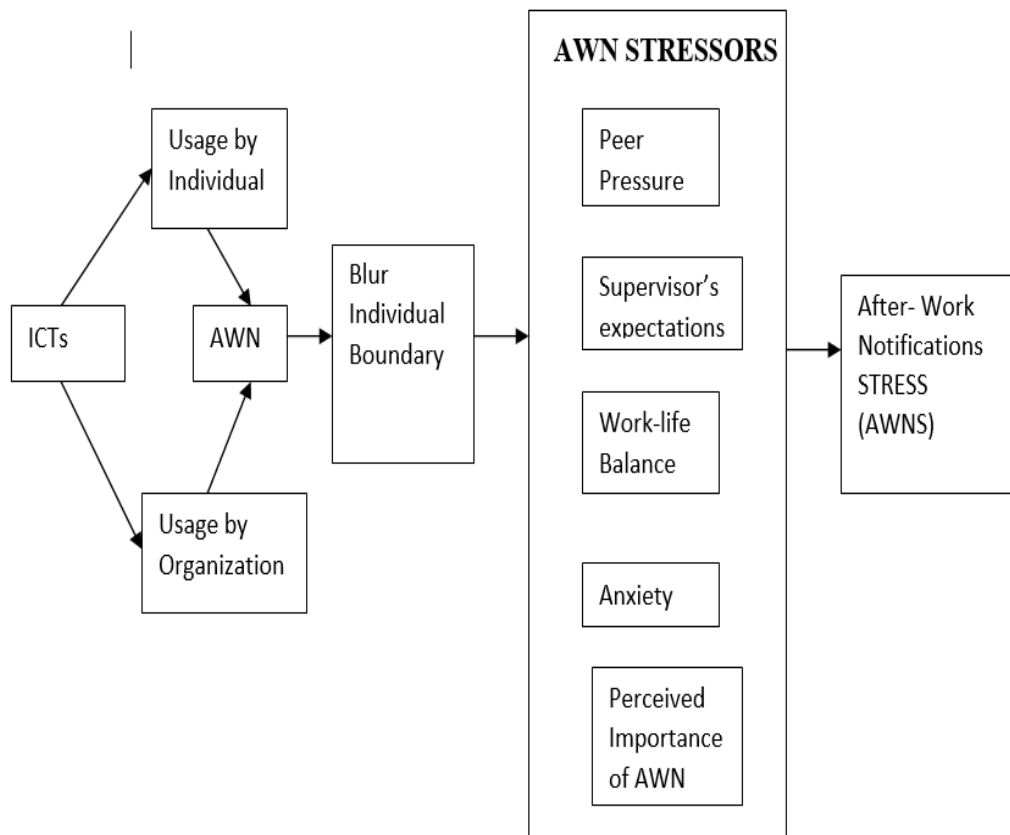
Figure 1: AWN leads to AWNS (After Work Notifications Stress)

FINDINGS

The narratives from the employees were analysed to identify key themes. All the participants except one reported that they receive AWN frequently. Whichever role or industry one worked, it was almost impossible to avoid those work related notifications while they were not working. ICTs usage might cause inter-role conflict whereby the role demands of one domain interfere with meeting the demands of a role in another domain (e.g., Greenhaus&Beutell, 1985; Kahn et al., 1964), which implies AWN is capable of doing the same.

"I am bound to respond to these massages. No matter how much discussions have been done but my co-ordinator always has something to assign and discuss through WhatsApp messages and calls. And if I try to avoid these notifications she specifically tags me in the messages further. My colleagues think that I am not responsible enough to handle or be a part of some

responsible committees. I have accepted the fact and have allowed them to bully me. At times I take some time to respond to the messages."(P)

Some respondents even shared their dilemmas that they have responded to the not so important AWN also, because of their overenthusiastic peers, who always seem to be ready to respond.

"I was working with a more reputed educational institute before I joined here, because I wanted time for my family and the working hours here were lesser. But slowly I realised, that I was working even after my official work hours were over. Every now and then my coordinator or colleagues keep sending notifications. It's very difficult to track that how many official WhatsApp group I am part of. Even if I think of ignoring those messages, which sometimes I feel could have been avoided for next work hours, some of my super enthusiastic colleagues respond and within a blink of an eye there are 20 to 30 messages. This kind of social norms set by my colleagues compels me to take cognizance of such notifications." (E)

Some of the respondents also mentioned that they have cancelled their holiday plans because of *surprise* work notifications.

"At times I feel that because I can be reached or contacted anytime, my boss pays little attention to the work details during work hours. I feel confused whom to contact and what am I suppose to do. Such clarity comes from my boss after I reach home and try to relax. And because I tend to play various other roles at my home it becomes difficult for me to pay attention to the details. And next day I often seek some further clarity on my set of tasks. It has become a common practice at my workplace to send work related notifications even one is holidaying. I remember, once I had to cancel my family trip, because all of a sudden popped up a surprise mail which mentioned a so called important agenda for which I needed to be present. I strongly feel I could have contributed the same or even better after enjoying my vacation." (V)

One of the participants also mentioned that though he wanted to detach himself from work once he leaves the office premises, he was unable to do so because some of his seniors who have lesser family obligations (married children living elsewhere), worked for long hours and keep sending notifications related to work. However, he also mentioned that at times he felt it was necessary to work in private space or off work space in order to meet the targets and achieve goals, because he felt committed and obliged towards his organization for giving him the status he enjoyed in the society.

"I go through a lot of pressure given my work profile. Usually I also work a couple of hours extra than my usual timings. By the time I reach home, I get exhausted and want to spend some quality time with my family. Then also, sometimes I receive work related notifications. Weekends are also packed with work related discussions with colleagues and seniors. Though I feel it strains me but at times I feel obliged towards my organization for valuing my work and giving me the status which I enjoy in the social setup." (R)

One of the participants mentioned, *"Whenever I hear any notification sound, my heart sinks with the thought of "Now what?" I feel so anxious." (M)*

The narratives above clearly show that the participants frequently receive AWN related to work, which were unavoidable due to the pervasiveness of ICTs and caused AWNS. The above percepts, also suggest that the irresponsible usage of ICTs can lead to employee stress and can narrow the positive impacts of technology in ones work and private space.

DISCUSSION

The paper presents employee perception on receiving AWN and the perceived stress of AWNS, by capturing the lived experiences of work related dilemmas of working professionals which they face after their normal work hours through intense interview engagements. Also the paper discusses a socially relevant issue increasingly of interest for practitioners facing the problem of stress and strain outside the organizational context.

Above accounts and narrations by the participants clearly indicate that AWN do cause stress to employees which the paper refers as 'After Work Notification Stress' (AWNS). Individuals are compelled to attend to AWN due to set organizational norms and mode of working. The paper identifies some factors which trigger stress in employees when they receive AWN. Some stressors indentified because of AWN are, 'Peer Pressure', 'Supervisor's Expectations', 'Work-life Balance', 'Perceived importance of AWN' and 'Anxiety'.

Based on the above findings of the study, the following propositions can be explored further:

Proposition 1: Employees feel AWNS when they receive AWN, in the form of supervisor's expectations, peer pressure, perceived importance of notifications, work-life balance and anxiety.

Narrative also showed that some may feel obliged towards the organization and thus feel motivated to attend and respond to the AWN after their work hours also. So yet another proposition may be formulated as follows:

Proposition 2: Individual commitment and obligation towards the organization guide individual perception of receiving and responding to AWN after their work hours. Such individuals are less likely to feel AWNS.

Above proposition in line with Schlosser's (2002) qualitative study on wireless technologies revealed an important role for self-identity in how individuals perceive and use technologies and in particular how individuals use technologies to complement their personae. This suggests individuals whose personal identification is linked closely to their work are more likely to use ICTs even when involved in other domains (e.g., family). Fenner and Renn (2004) argue employees high in job involvement will be internally motivated to extend their workday through technological tools because they consider their work central to their existence. This is consistent with arguments that individuals are likely to integrate a favored role into other domains because they place high value on that aspect of themselves (Ashforth et al., 2000; Stryker, 1980).

Narratives also indicate that a few employees are always enthusiastic about receiving and responding to AWN. Boundary theory suggests individuals vary with respect to how much they choose to integrate their various roles (Ashforth et al., 2000; Kossek et al., 2005; Nippert-Eng, 1996). Individuals will tend to favour and ultimately engage in roles that are associated with positive reinforcement of their self-concept (Ashforth et al., 2000; Stryker, 1980). In other words, an individual will be more likely to engage in his or her work role, even when in another role domain, when the individual considers the work role to be an important component of himself or herself (Boswell and Olson-Buchanan, 2007). So yet another proposition can be framed as follows:

Proposition 3: Employees with higher ambition and job aspiration will engage themselves in AWN even after their work hours and are less likely to feel the AWNS.

IMPLICATION

This study has some vital practical implications. Today there is no organization or sector which works without ICTs and the present findings add to some similar work by Derks & Bakker, (2014), which suggested that ICTs penetrate virtually all areas of life in modern societies, have

become an essential part of both leisure and working time. This study shows that nevertheless stable technologies within organizations and people being well versed with the usage of ICTs within their workplace, they can still feel the negative impact of the ICTs in the form of AWNS via emails, messages etc. According to the study, the factors which contribute towards AWNS can be taken into consideration by the organizations to improve the usage of ICTs in a constructive way.

The study will also help managers to practice appropriate management mechanism and behavioral interventions to reduce after work notifications stress, in order to promote more stress-free work environment.

LIMITATIONS AND FUTURE DIRECTIONS

The Study uses exploratory form of research, so the identified underlying themes are based on researcher's own understanding and presumptionswhich may make room for some bias and limit the methodological rigor of the analysis. Also, the sample used for the study may not be sufficient to draw all the possible effects and stressors related to AWN.

However, the study presents a solid ground to further explore all the propositions formulated based on the research findings. Also, other dimensions of ICTs in terms of usability and intrusiveness can be explored in order to understand employee behaviour and response (within and outside work space) to AWN after work hours. Also, the impact AWN can be tested for employee engagement, role clarity, well-being etc.

REFERENCE

Ashforth, B. E., Kreiner, G. E., & Fugate, M. 2000. All in a day's work: Boundaries and micro role transitions. Academy of Management Review, 25: 472-491.

Batt, R., &Valcour, P. M. 2003. Human resources practices as predictors of work-family outcomes and employee turnover. Industrial Relations, 42: 189-220.

Boswell W. R, Olson-Buchanan J. B. (2007). The use of communication technologies after hours: The role of work attitudes and work-life conflict. *Journal of Management*.33(4):592–610.

Day A, Paquet S, Scott N, Hambley L.(2012). Perceived information and communication technology (ICT) demands on employee outcomes: The moderating effect of organizational ICT support. *Journal of Occupational Health Psychology*.7(4):473–491.

Derk, D., Duin, v. D., Tims, M., and Bakker, A. (2014). Smartphone use and work–home interference: Themoderatingroleofsocialnormsandemployee work engagement. *Journal of Occupational and Organizational Psychology.*

Fenner, G. H., &Renn, R. W. 2004. Technology-assisted supplemental work: Construct definition and a research framework. Human Resource Management, 43: 179-200.

Greenhaus, J. H., &Beutell, N. J. 1985. Sources of conflict between work and family roles. Academy of Management Review, 10 : 76-88.

Hammersley, M., & Atkinson, P. (1994). Ethnography: Principles and Practices. New York.: Routeledge.

Ivancevich, lM.; Napier, H.A; and Wetherbe, J.c. (1983). Occupational stress, attitudes, and health problems in the information systems professional. *Communications ofthe ACM,* 26, 10, 800-806.

Kahn, R. L., Wolfe, D. M., Quinn, R. P., Snoek, J. D., & Rosenthal, R. A. 1964. Organizational stress: Studies in role conflict and ambiguity. New York: John Wiley.

Kossek, E. E., Lautsch, B. A., & Eaton, S. C. 2005. Flexibility enactment theory: Implications of flexibility type, control, and boundary management for work-family effectiveness. In E. E. Kossek& S. J. Lambert's (Eds.), Work and life integration: Organizational, cultural, and individual perspectives: 243-261. Mahwah, NJ: Lawrence Erlbaum.

Kossek, E. E., &Lautsch, B. A. (2012). Work–family boundary management styles in organizations: A cross-level model. *Organizational Psychology Review*, 2, 152–171.

Kreiner, G. E., Hollensbe, E. C., & Sheep, M. L. (2009). Balancing borders and bridges: Negotiating the work-home interface via boundary work tactics. *Academy of Management Journal*, 52, 704–730.

Li, E.Y, and Shani,A. B. (1991). Stress dynamics ofinformation systems managers: A contingency model. *Journal ofManagementInfonnation Systems*, 7, 4,107-130.

Major, D. A., &Germano, L. M. (2006). The changing nature of work and its impact on the work-home interface. In F. Jones, R. J. Burke & M. Westman (Eds.), *Work-life balance: A psychological perspective* (pp. 13–38). New York: Psychology Press.

Ninaus k., Diehl S., Terlutter R., Chan K., and Huang A. (2015). Benefits and stressors-Perceived effects of ICT use on employee health and work stress: An exploratory study from Austria and Hong Kong. *International Journal of Qualitative Studies in Health and Well-being.* Vol: 10. Accessed on 15.7.2018 from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4604212/

Nippert-Eng, C. 1996. Home and work: Negotiating boundaries through everyday life. Chicago: University of Chicago Press.

Patton, M. Q. (2002). Qualitative Research and Evaluation Methods. Thousand Oaks, California: Sage Publications.

Robinson, J. 2006. An e-tool bill of rights. Fast Company, December: 54.

Schlosser, F. K. 2002. So, how do people really use their handheld devices? An interactive study of wireless technology use. Journal of Organizational Behavior, 23: 401-423.

Sethi, V; King, R.; and Quick, J. (2004). What causes stress in information system professionals? *Communications of the ACM*, 47,3, 99-102.

Stryker, S. 1980. Conceiving the self. Contemporary Sociology: A Journal of Reviews, 9: 383-385.

Thong, J.y.L., and Yap, C.S. (2000). Information systems and occupational stress: A theoretical framework. OMEGA: *The International Journal ofManagement Science*, 28, 6, 681-692. Van Manen, M. (1998). Researching Lived Experience. Ontario, Canada: Althouse.

Disrupting the Agricultural economy in India

Atul Arvind Patnakar
Assistant Professor
Jamnalal Bajaj Institute
of Management Studies, Mumbai

Dr Chandrahauns Chavan,
Professor,
Jamnalal Bajaj Institute of
Management Studies, Mumbai

Abstract

The Indian agriculture is perennially besieged by multiple problems. Over dependence on monsoon, high volatility in demand and supply of farm produce and logistical issues have forced it to a state of hopelessness. The farmers face hardship during draught and due to poor price when monsoon is good. In the end they lose credit worthiness as it is difficult to make both the ends meet

The consumers are also not happy due to price volatility, sub-standard quality and uncertainty in availability of food grains. They often end up paying lot more than what a farmer gets. The problems are aggravated due to hoarding and manipulation by intermediaries

The Government is under continuous pressure to maintain prices to ensure adequate return to farmers. Measures like micro irrigation, subsidized fertilizers or better seeds are not enough to address the core issues of price, quality, liquidity and assured supply throughout the consumption cycle. Large loan waivers help only for short duration as the agricultural economy depends on many unmitigated risks

It is common to blame the distributors and traders for creating artificial demand-supply gaps, and controlling market prices by holding large inventories. They are also held responsible for influencing policy decisions in their favour. Though these may be true in few cases, overall logistics management has no other alternative in the current situation.
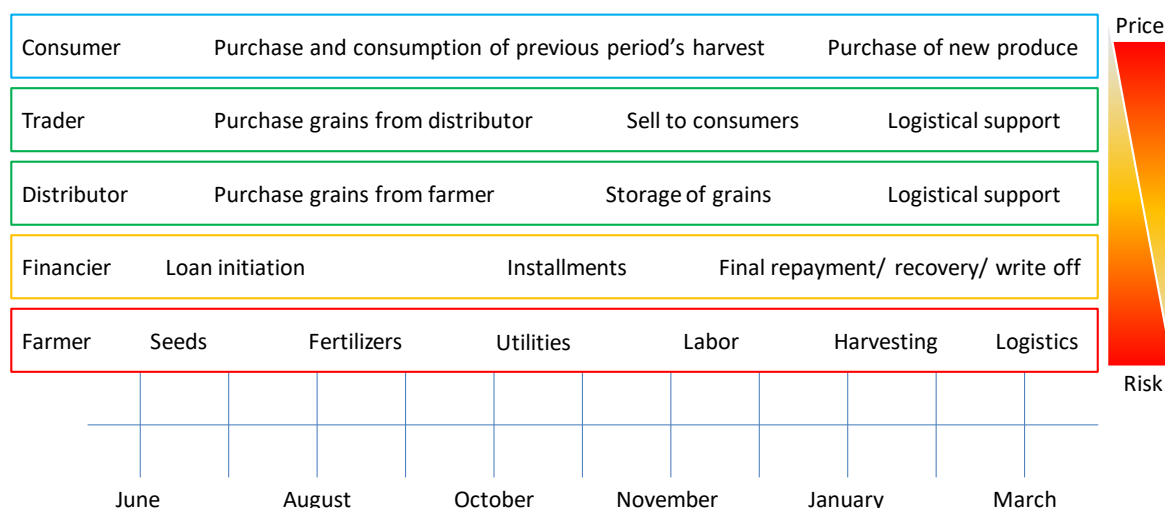
While the other sectors of the Indian economy have been benefited by technology revolution, the agriculture seems to be waiting for some solution. Traditional, rigid and unchallenged processes make agricultural economy a candidate ripe for disruption. Let us see how

This paper introduces new ideas for improving the current logjam. However, it will be appreciated that the scope of the subject is vast and this is not an attempt to address all the issues

Stakeholders under stress, traditional processes – perfect opportunity for a disruption

INTRODUCTION

Farmer suicides

According to National Crime Records Bureau (NCRB), the suicides related to farm sector have been rising. The total number across India is more than 10,000 per year. About 40% are due to finance related causes and another 20% due to agricultural issues. This has been happening despite huge loan waivers doled out by successive governments every 5 to 7 years, Minimum Support Price (MSP) mechanism offering assured return to some extent and insurance schemes recently launched by the Central Government. Initially it was thought that continuing draught like situation across the country drove the cultivators to the edge as the yields dwindled. However, even after a better monsoon and micro irrigation schemes, the situation did not improve over the last two years

It is clear that along with the good efforts on water management, better seeds, fertilizers and creating better storage and logistics facilities, the problem needs to be tackled through more innovative means

Uneven and uncertain cash flows

A farmer gets cash by selling farm produce only at the end of the year whereas expenses like purchase of seeds, utilities, fertilizers, labour need investments throughout the year. To bridge this gap, the farmer has to borrow from banks or private money lenders by pledging crop, farm land, house or other assets. In some cases, the repayment installments commence immediately. In addition, like any other person, farmer also has to support his family, plan for education of children, provide for health/ medical needs etc. At the end of the year if the grain is sold at good price, he can repay the loan. If the price is not good, the loan carries over to the next year and the case enters a vicious cycle of more borrowing, delayed loan repayment, unpaid expenses and unattended family needs. Marked as delinquent, it may end up in driving the person to take the extreme step

The disconnect

It is ironical that while the farmer suffers because of poor availability of cash and lower price for the crop, the consumer ends up paying a very high price – sometimes ten to twenty times of what the farmer gets. This is observed across different types of farm produce like grains, pulses, vegetables, fruits or cash crops. It is often impossible for the farmer to even recover the basic cost of plantation, storage, transportation and sustain a decent livelihood for his family

The major factors affecting the agricultural economy can be segregated as –

Financial	Logistical
• Cash-flow mismatch and uncertainty of financial support to farmers • High risk faced by farmers, banks, consumers • Huge margin derived by traders	• Poor storage facilities • Inadequate/ outdated transportation means • Disconnect between farmers and consumers

We will see how status quo in these factors can be challenged through a disruption

Cash flow mismatch, price and distribution are the real challenges faced by a farmer

Keywords

Agricultural finance disruption, Commodity derivatives for agricultural produce insurance

LITERATURE SURVEY

Distress amongst the farmers

Times of India reported1 that on an average about 12,000 farmers and farm workers commit suicide every year all over the country. The LiveMint report2 mentions major factors as 'poverty, bankruptcy and farming related issues including inability to sell'.

Electronic marketplace for farmers

There is lot of information available about the promotional initiatives of Government of India e.g. National Agricultural Marketing portal eNAM, channelizing farm produce through Farm Producer Organisations – FPOs and the research undertaken by the Indian Council for Agricultural Research (ICAER)

The Government of India setup eNAM portal for providing an open and transparent platform for facilitation of price discovery. The portal has been promoted with the help of FPOs. It has integrated more than 500 regulated markets across 16 States and 2 Union Territories. The portal allows trading of 124 commodities in spot market. Already trades worth 2.21 crore MT by weight and Rs. 60,000/- crore by value have been concluded on the portal

While the Government efforts at promoting the FPOs is commendable, it may not help to provide assurance to the farmers about price. It also does not provide any method for the retail consumers to connect directly with the farmers. This leaves out a gap where stock and price can be manipulated in retail commodity market all over the country

Crop insurance schemes

The Pradhan Mantri Fasal Bima Yojana (PMBFY) provides insurance cover for both Kharip and Rabbi seasons in India. The scheme is operated through empaneled private sector insurance companies.

As per the data available on the PMBFY website, the premium is paid by farmers (2 to 5%) and the rest equally shared by the State and Central Government. It can be seen that up to 60% of the farmers were benefited by the claim settlement. The scheme works in case of natural disaster (e.g. cyclone in Kerala, Karnataka and Tamilnadu) or in case of widespread damage due to crop diseases/ draught (e.g. Maharashtra). The total worth of farm produce insured is about Rs 1.92 lakh crore in 2017-18

The insurance scheme is primarily for protecting the farmers against the losses caused by sever weather conditions, unseasonal rains etc. It does not provide cover to the farmers against drop in prices

MSP and Market Price

The Government of India increased MSP of 22 commodities to 150% of input costs based on the A2 + FL (Family Labour) method. It includes the cost for seeds, fertilizers, pesticides and labour (both contracted and the farmer family contribution to farming)

Kozicka et al in their paper 'Modeling Indian Wheat and Rice Sector Policies'3 highlight that the MSP and the amount which the farmer gets (Farm Gate Price) are strongly correlated for Wheat and Paddy
Copyright 2014 by M. Kozicka, M. Kalkuhl, S. Saini, J. Brockhaus

---

1. ToI report dated 3rd May 2017 – 'Over 12,000 farmer suicides per year, Centre tells Supreme Court' provides NCRB inferences
2. LiveMint report dated 17th May 2017 lists various factors leading to distress amongst the farmers and farm workers
3. Kozicka et al research paper analyses the MSP, PDS and other market mechanisms to conclude that - 'High involvement of the government in wheat and rice production, trade and

storage resulted in several market distortions. The large government interventions resulted in mounting fiscal costs that seem to be higher than officially accounted by the government'

Figure 4 Rice (in paddy) producer prices (real, in INR per quintal)
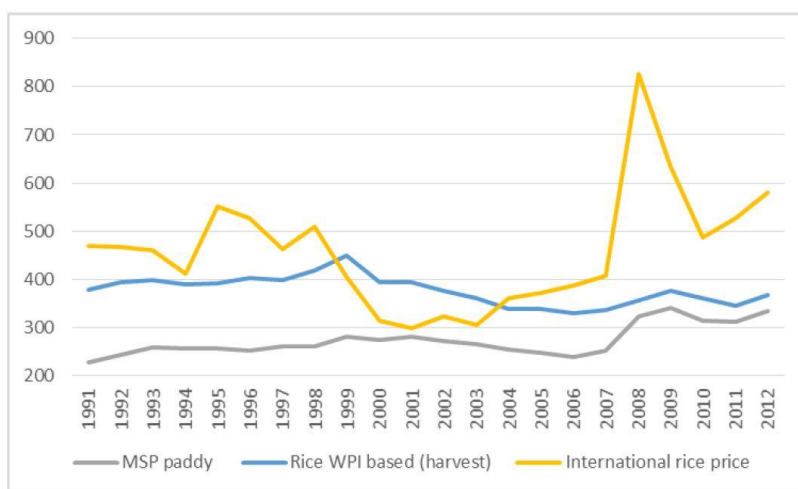
The cost-plus formulation may not reflect the true price discovery as expected from any open market. The report provides charts which clearly show that the international price for paddy has been higher than the MSP by a significant margin. The Government may provide a healing touch the distressed farmers by way of increasing the MSP from time to time and including more and more cost factors to satisfy their demands. However, the farmers may not get the best deal in terms of price. If the prices fall, the farmers are under distress to sell at MSP to the Government. In this case, they have to submit the crop at the procurement centers of the Government e.g. for cereals, almost 2/3rd production is procured by the Government. If the prices start rising, the farmers can not take advantage and get better returns

Hence there is a need for a flexible and robust mechanism wherein, the farmers are assured of value for their crop while allowing them to keep the option with them to sell the commodity in open market

This paper explores these three aspects. It also suggests a solution to bridge the gap.

ABOUT THE RESEARCH

The research is exploratory in nature. It tries to create a framework for procurement and distribution of agricultural produce. The recent advances in technology are explored for developing a solution which leverages commodity derivatives. The level of abstraction in the suggested solution lets the farmers, FPOs, transporters or merchants to use it without getting involved into the complexity of derivatives, strategies or the logistic platform

The solution also integrates with an App for the retail consumers. This completes the farm production, marketing, distribution and consumption business cycle. It provides a level playing field for all the stake holders. While the solution opens up the market place for true price discovery of commodities based on demand and supply, it protects the farmers by employing commodity futures and options

This positive disruption questions the status quo in price determination, storage, distribution and commercial transactions in farm produce

Disruption opportunities in logistics

With easy access to internet and advent of smart phones, a proliferation of online marketing companies was witnessed in last few years. These companies have the best of logistical capabilities supported by state of the art information technology backbone. Unfortunately the agricultural sector is yet to benefit from any of these advances. This is mainly due to –

- Poor storage facilities – in many cases the quality of food grain deteriorates due to this
- Inadequate transportation – the time taken for the produce to reach end consumer is in months
- Disconnect between farmers and consumers – agriculture is one of the few sectors where consumer is totally alienated from the producer i.e. the farmer. The Government tried to setup Farm Producer Organisations (FPO) to channelize grains, vegetables and milk products but it is yet to get traction

A technology based demand aggregation and dispatch management platform can solve the problems –

1. Farmer will get the produce certified for quality from a rating agency
2. The grains will be deposited with a FPO warehouse along with the quality certificate
3. The physical stock will be converted into a dematerialized form by the FPO warehouse
4. Farmer's demat account will show credit for the quantity of grains deposited
5. Consumers will register their requirements on an app, pay and select delivery channel
6. The requirement will be listed for dispatch. The FPO will create standard lot sizes for packaging
7. Delivery agents will pick up the delivery request and fulfil for a fee

8. Every time a delivery is effected, farmer's demat stock will be debited and bank account credited for the sell proceeds
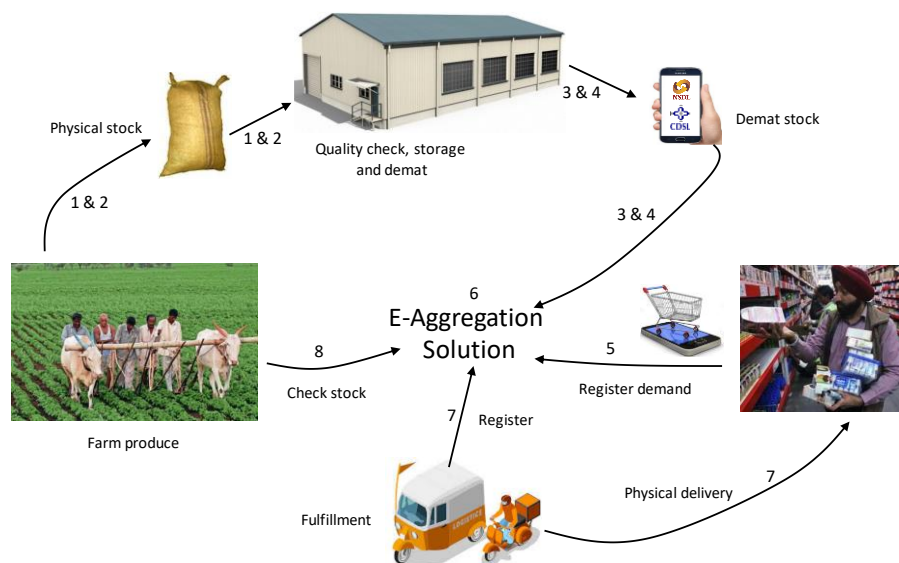
In this model, the supply and delivery will be anonymous. The fungibility of the stock will be the key factor. As far as the quality and variety selected by the consumer are matched, delivery can be done from any center nearer to the consumer. The delivery options can be retailer, mall or doorstep delivery at a fee

This solution replaces the intermediate layer of stockists, distributors and retailers with electronic platform for distribution and logistics. It also provides in-built transparency where farmer can watch his stock being distributed and also know the price at which each unit is sold. The consumer can track delivery, ensure quality and chose dispatch mode. The distribution agent or company is agnostic of supplier or consumer. It will have a delivery target and earn for achieving the same on time. As the model matures, consumers may be allowed to form a schedule of delivery – say 1 kg per month instead of one time purchase of 10 kg of food grains

E-aggreation of demand-supply, tracking, distribution and collection are the way to go

Disruption opportunities in agricultural finance

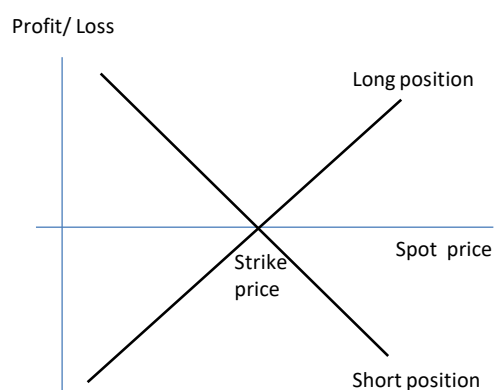As mentioned earlier, the farmers and consumers are both exposed to risk related to price

1. Farmer needs to mitigate risk related to not getting adequate price
2. Consumers need a cover for risk related to higher prices
3. Banks need to transfer risk related to loans

In the current situation, all these stakeholders are under stress at different stages of agricultural calendar. The risk can be mitigated by employing 'Price Assurance' and 'Price Insurance' mechanisms

The process and infrastructural requirements for the financial solution are same as in the case of logistical solution till dematerialization of physical stock by the warehouse. The financial solution also needs quality, quantity, location and date of availability to be matched with a standard beforehand

Price assurance

Futures are contracts which are traded on a regulated exchange with standardized strike price, expiry date, quality and place of delivery. The risk in these contracts is managed by mark to market mechanism. The margin in this account is settled on a daily basis. If the price in spot market is favorable then the margin account is credited. It is debited if price movement is adverse. The futures contracts can be settled with delivery or in cash. The futures contracts help to lock in the price

Let us consider the case of a farmer who is worried that price of the commodity might fall when the crop is ready to be harvested. The farmer should sell a future contract on the commodity exchange. If the price falls as expected, his mark to market margin account will be in surplus. However when he sells physical stock in the market, the proceeds will be less. The profit from margin account will offset the loss in spot market thus protecting the farmer from actual fall in price. In reverse scenario, if the price of the commodity increases, his margin account will be in debit i.e. he has to pay. He will get a higher price in the spot market where he will sell the stock.

Similarly a buyer is worried that the price of the commodity might increase in future. In this case, the buyer should buy a future contract to lock in the price for a future date. If the price falls, his margin account will be in debit. He can buy the physical stock from the market where he makes a gain and that will offset the loss in the future contract. In reverse case, if the price

rises, the surplus in margin account will compensate the loss which he has to suffer because of higher price

The farmer can buy 'price assurance' to the extent of the loan taken from bank. In turn, the bank will be assured of loan recovery. The remaining quantity from expected crop harvest can be sold in the open market without any hedge. Alternatively, the farmer can buy an option to get a right to sell the commodity at a pre decided strike price. In the next section we will delve deeper into this

> ## Commodity futures help to get assured price in any scenario
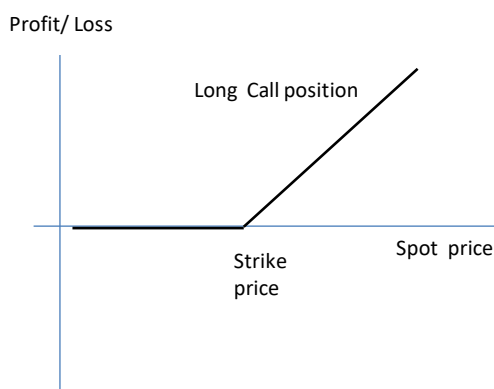
Price insurance

Options are the instruments which offer right without any obligation to the buyer. They have to pay a premium to the seller of the option for owning the responsibility of delivery if demanded. Thus options act like insurance against price volatility

Profit/ Loss

Long Put position

Strike price

Spot price
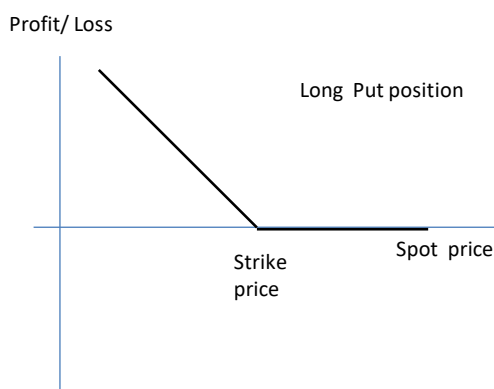
The farmer will buy a 'Put' option to lock in the price for commodity. He has to pay premium to the seller of the option. Three scenarios may arise depending on the market price –

1. If the price moves above strike price, the option is said to be 'Out of the money'. It expires worthless and the farmer loses the premium paid. The farmer can sell the grain in spot market at a price higher than the strike price.

2. If the price is exactly the same as the strike price, then the option is called 'At the money'. In this case also, it expires worthless. The farmer loses premium paid to the seller

3. If the price moves below the strike price, then the Put option purchased by the farmer is 'In the money'. In this case, the farmer exercises the option. Even after losing the premium, the farmer gets higher price than spot market which is the real gain

Similarly, the buyer should purchase a 'Call' option by paying premium to lock in a price. Depending on the market price of the commodity, one of the following scenarios may arise –

Profit/ Loss

Long Call position

Strike price

Spot price

1. If the spot price is less than the strike price, the call is Out Of the Money and expires worthless. The buyer loses the premium paid and can buy the commodity at cheaper price from the spot market as compared to the strike price

2. If the market price is exactly the same as strike price, the call option buyer will let the option expire without exercise. In this case, the buyer loses the premium paid

3. If the spot price moves above the strike price, then the call option is 'In the money'. The buyer of the call then exercises to buy the commodity at strike price which is cheaper than the spot market. In this case, the buyer loses premium but gains from the lower strike price

It is clear that the option premium paid by the farmer or the consumer is similar to the insurance premium. The writer or seller of the option keeps the premium. The contrarian position i.e. selling an option is often taken by traders or speculators who have expertise in risk assessment and management. Along with buyers of the option, these stakeholders are thus important as they provide liquidity to the market

We have discussed the use of derivatives to hedge the risk related to price only. It is also possible to hedge against other parameters like weather, yield etc. in the similar manner

Options provide insurance against price volatility at a premium

A real life example

Let us take an example to illustrate the proposed mechanism –

Assume that farmer produces 200 tonnes of 'Tur Dal' and the current market price is Rs. 120/- per kg. Due to bumper crop this year, the price is expected to reduce to Rs. 80 per kg. As explained previously, the farmer can hedge price risk by taking a short position (i.e. sell or write) in Tur Dal future contract at a strike price of Rs. 100/-. Suppose the farmer has taken loan by pledging half the produce so the Price Assurance should be used for 100 tonnes

If the price dips to Rs. 90/-, the margin account is credited for Rs. 10/-. The farmer has to sell the stock at lower price of Rs. 90/- in the market but the gain in margin account helps to maintain the price at Rs.100/-. Similarly if the price moves to 110/-, the margin account is debited for Rs. 10/-. The spot price fetches extra money but the debit in margin account offsets the gains to maintain the price at Rs. 100/-. The consumer also can lock in the price by using futures as mentioned before

For the remaining quantity of 100 tonnes, the farmer can buy a Put with strike price of say Rs.95/- by paying a premium of Rs.5/-. If the price moves to Rs.90/- the option is In the money and can be exercised at strike price which is higher than the prevailing spot price. If the price moves above Rs.100/-, the Put option will expire worthless as the spot price is higher than the strike. In this case, the farmer will lose the premium. A consumer can similarly buy a Call option to get a right to buy Tur Dal at say Rs. 110/-

Role of the Government, RBI, Regulators and Exchanges

The price assurance and price insurance mechanisms explained in this paper are in practice in developed economies for last several decades. The stakeholders use these to effectively manage the price risk. The Government needs to encourage private companies to start logistics and storage businesses to facilitate these risk management mechanisms. SEBI should facilitate a healthy commodity derivative market and help develop a competitive price discovery method by offering level playing field to the interested parties. The depositories should allow storages to convert physical stock to demat form. They should also open demat accounts of farmers to let them participate in the electronic market place through commodity derivatives and e-

logistics management. Reserve Bank of India should allow the banks to mark agricultural loan as good asset if it is backed by Price Assurance mechanism. The banks should mentor the farmers in initial stages for use of derivatives. Once they learn, using the mechanisms over a smart phone will be a regular feature

Advantages

These proposals will create a win-win situation for farmers, consumers, banks and even the Government. The farmers will be relieved of the stress as they transfer price risk. The consumers book a future delivery at a price and track it in transparent manner. The Government will be relieved of responsibilities for MSP, loan waiver, compulsory purchase etc. In a way, the agricultural economy will become self sustaining and help restore its own dignity

The disruption platform will earn fee for financial as well as the logistical transactions

References

1. Government guidelines for FPOs -

http://sfacindia.com/UploadFile/Statistics/Farmer%20Producer%20Organizations%20Scheme.pdf

2. Government of India crop insurance scheme data for Kharif and Rabbi seasons -

https://pmfby.gov.in/stateWiseDataPage

3. Times of India report dated 3rd May 2017 -

https://timesofindia.indiatimes.com/india/over-12000-farmer-suicides-per-year-centre-tells-supreme-court/articleshow/58486441.cms

4. LiveMint report dated 17th May 2017 –

https://www.livemint.com/Politics/xUoPzE8WJkF9AKjHi4y9NL/Farmer-suicides-in-India-myths-versus-realities.html

5. Research paper by Kozicka, Kalkuhl and Saini – 'Modeling Indian Wheat and Paddy Sectors Policies'

About the author

Atul Arvind Patankar is Assistant Professor (IT and Finance) at Jamnalal Institute of Management Studies, Mumbai. He also consults startups as an Independent IT Consultant in Wealth Management and Capital Markets domain. He worked in the Financial Services Industry for about 8 years and for more than 18 years in the software industry. He has extensive experience in consulting with large banks, brokers and wealth managers in US, EU, Canada and Japan. Atul worked on integration, implementation and testing of leading IT products used in front, middle and back office functions

Atul worked as a Member of the Board of Studies of Mumbai University. He was actively involved in structuring the post-graduate management courses offered by the University. Currently he is pursuing PhD in Jamnalal Bajaj Institute of Management Studies (JBIMS), Mumbai. IP filing process was initiated for one of his inventions – 'FS Test Pack' by his previous employer.

Use of QR code for public service compliance

Atul Arvind Patnakar
Assistant Professor
Jamnalal Bajaj Institute
of Management Studies, Mumbai

Dr. Chandrahauns Chavan,
Professor,
Jamnalal Bajaj Institute of
Management Studies, Mumbai

Abstract

The Central and State Governments create several regulations to ensure safety and security of general public who use the public services. The compliance with these Acts and rules is mandatory. The responsibility of actual implementation is with the law enforcement agencies and local governance bodies. Unfortunately, it is often observed that the common man for whose well-being the Acts are created is unaware of the compliance requirements or is ignorant

Let us take a couple of such examples related to compliance requirements for vehicles and restaurants

In the recent past, vehicle population has seen very high growth. The Mumbai Metropolitan region alone saw 50% growth in registered vehicles[1] in the period 2012 to 2017. It may have crossed the million mark for four wheelers and 1.5 million for two wheelers now

The Acts require every vehicle to be compliant with pollution check, insurance, taxes, permit and registration. The regulations make it mandatory for every public transport vehicle to display these details prominently on the outer side of the vehicle. The owners often forget to comply with these requirements as many of these are issued in physical form. The commuters seldom read these details which are meant to ensure a safe journey for them. The authorities can't do a 100% check due to very high number of vehicles and paper form of documents requiring physical checking. A solution to help owners, commuters and authorities to ensure compliance is the need of the hour

The other example is about restaurants, pubs and hotels. These are regulated to comply with fire safety, building-construction and health requirements. The restaurants need to maintain firefighting equipment, provide clear passage, not construct illegal floors and keep the place clean. The authorities inspect the venue, certify for compliance and issue permits. The owners are mandatorily required to display the compliance certificates at the entrance. It is common to see that these are not clear, legible and ignored by the customers. In a recent order, the Mumbai

High Court directed the restaurant owners to use an App[2] to present the compliance with regulatory requirements. In the past fire accidents in restaurants and pubs caused casualties. A solution to ensure compliance of restaurants will pave the way for a cleaner, safer and reliable restaurants

A QR Code based mobile app can be an effective solution. The Digi-Locker app developed by the Government of India maintains verified copies of some of the documents. The app can use these files. The users of public services such as restaurant venues or transport vehicles can download the app. The providers of public services should display the QR code generated by the app. The users can scan the QR code and check if the service is compliant with appropriate regulations or not. When the QR code is scanned, the result will show compliance checklist with a point by point summary of requirements. If the consumers find a gap between the permission granted by the authorities and the actual situation, the app should allow them to escalate to authorities against the service provider. The app should also remind the owner about the compliances which are due for renewal thus saving penalties

The app will thus

1. Bring in transparency in the permissions
2. Make compliance checking process more efficient
3. Enable the users of public services to check the compliance

---

1. Times of India reported that the vehicle growth has created congestion in city. There are about 1,500 vehicles per km
2. The DNA newspaper reported that the Hon. Mumbai High Court ordered BMC to use an app to let the customers know about the compliance of restaurants

Introduction

The Government regulates public services for quality of service, efficiency with which it is delivered and transparency of operations. The process of permissions, rejections, corrections takes long time and the operators continue with the service on the basis of previously granted permits and no-objection-certificates (NOCs). In some cases, collusion between applicants and approvers results in deficient services with poor quality and non-accountability on part of the service provider or the approving authority. Even one instance of quality deterioration, accident due to negligence, and delay in rendering or high handedness of executing agencies leads to public outrage. The process of granting permits and inspection come under public scrutiny. The services at times become hazardous due to hygiene, fire safety issues or negligence. There have been many accidents where users of the public services lost their lives due to these issues

Hence it is important to ensure that the regulations are followed as stipulated at all times. The involvement of general public in monitoring the basic aspects of the service paves the way for holding the service provider accountable. As the consumers become aware of the regulatory requirements, the chances of tampering, violation, misrepresentation reduce. The digital revolution needs data to develop insightful and smart solutions. Since most of the existing processes for permissions to public services are semiautomated and siloed, the data can not be analysed and put to use

Commuters are unaware of –
- Vehicle registered in owner's name?
- Is the vehicle compliant
  - Insurance policy valid?
  - Certified for PUC?
- Does the owner have permit?
- Is driver license valid?
- Is it passed as a safe vehicle?

Let us take the example of Motor Vehicles Act 1988 (the Act). It regulates driving license, registration, permits, insurance etc. It prescribes the penalties and defines the liabilities for non-compliance with the law. The purpose of these rules and regulations is to ensure safety of the general public who use the transport services provided by the Government Undertakings or private operators like taxis

Public services permissions, compliance breaches and rejections data is not in public domain

The current process –
- Semiautomated workflow
- Physical paper documents
- High volume of applicants
- Inability to scale up
- Prescriptive approach
- Customers ignored

For example, the Act stipulates that no motor vehicle should be driven by a person not holding a valid driving license for a particular class of vehicle. A few years back a boy of 16 years was thought to be driving a bus which plunged into a river. There were 33 casualties3. Such grievous accidents highlight the need for round the clock surveillance. Out of 4.5 lakh accidents in India in 2017, more than 10% were caused by minors driving vehicles. There are more than 230 million registered vehicles7 in India (2017). It is very difficult to check compliance of all these regularly

The regulation of restaurants and pubs is another case in point. The Local Governance bodies such as Municipalities and Boards require every restaurant to comply with fire safety norms.

Customers rarely check —
- Valid NoC for fire safety
  - Fire extinguishers ok?
  - Ventilation alright?
  - Safe exit passage?
  - No open flame used?
- Building and const NoC
  - Illegal construction?
  - Mezzanine floor ok?
- Health NoC
  - Is the place hygienic?
  - Processes are clean?

They have to provide for fire detectors, extinguishers, safe exit passage and prevent use of open fire except for the kitchen. In addition, the owners are required to keep the place clean and hygienic. The structure should not be constructed illegally e.g. a mezzanine floor to accommodate more customers. These norms have to be complied with before getting a permit to run the restaurant. The authorities also conduct regular audits to inspect and verify compliance. In recent fire accidents in Mumbai pubs, many customers lost their lives. Subsequent investigation revealed that none of the rules, regulations and norms were followed. In some cases, the owner was found to have started business without permission as the process was delayed for months. The venues were extended with temporary weather sheds using flammable material

These cases highlight the need for an automated solution for checking of compliance for public services. The users of these services should be able to check if the vehicle which they are using for commuting or a restaurant where they have food adheres to various regulatory requirements. Since majority of the users are unaware of the Act, the checklist should be in-built into the

solutions itself. It should highlight lapses if any and alert the customers before they decide to use the service

Intuitive, insightful and automated solution will improve transparency, efficiency and accountability

3. Newspapers reported this incident where a minor was thought to have driven and caused accidents of a bus

4. Statistics published by Transport Research Wing of Ministry of Road Transport & Highways in 2017 also shows that average age of driving violations is about 14 years in India

QR based solution for vehicle compliance

The new Motor Vehicles Act (pending in Parliament since 2018) proposes to increase the fines, suspension of license and imprisonment for violation of the Act and non-compliance with its provisions. It seeks to link driving license with ADHAAR number so as to prove the identity of the driver

The Automotive Industry Standard (AIS) 140 of ARAI5 seeks to improve tracking of a public transport vehicle and safety of the passengers. It proposes Intelligent Transportation System (ITS) by introducing new devices compliant with AIS 140. The devices have to provide for the following –

1. Vehicle Live Tracking (VLT) for public transport vehicles and
2. Provision of an emergency button

The requirements are defined to great detail by ARAI. It specifies messaging protocol, fall-back in case of non-availability of network, robustness and tamperproof device, power backup etc. These new provisions will also help to know the geographical position of a public transport vehicle. The passengers using the public transport at odd hours and lonely places will be assured of their safety. The standard prescribes the provision of emergency button to alert the Police for getting help instantaneously
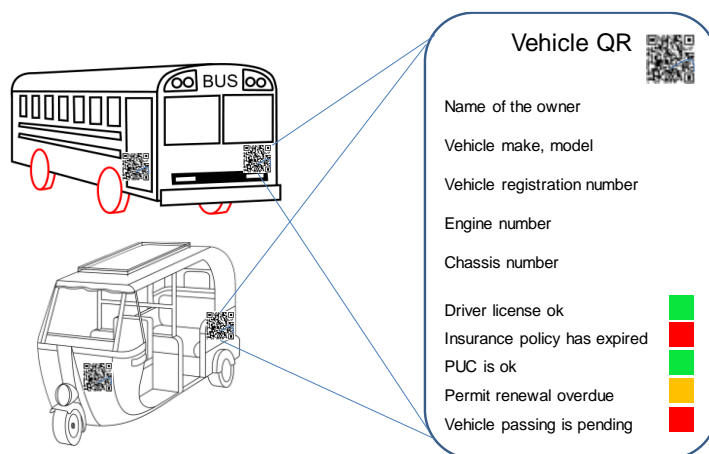
However, most of these measures are for post incident corrective and investigative actions. A proactive and preventive mechanism using smart devices will help to check the vehicle and driver compliance before entering the vehicle. If the users find it non-compliant or non-reliable, they can decide not to board it. The users should also be empowered to report any misrepresentation, breach or criminal activity with accurate vehicle and driver information to the authorities

5. ARAI has proposed radical changes to the vehicle compliance regulations with its safety features listed in its new standard AIS 140

The solution should also enable the service operators to gather complete information about the driver before handing over the vehicle and share it with the users. To avoid tampering of the information, the mode of information sharing should be encrypted and passed on from one device to another in a secured manner. The compliance requirements for vehicle and driver are summarised in the following table –

#	Document	Form	Renewal	eForm
1	Driving license	Smart Card	15 years + 5 years	DigiLocker
2	Registration	Smart Card	15 years	DigiLocker
3	Vehicle insurance	Physical document	Every year	Not available
4	Permit	Physical document	Every year	Not available
5	Pollution certificate - PUC	Physical document	Every 6 months	Not available
6	Tax	Physical document	Every year	Not available

It can be seen that most of the documents are in physical form which delays the compliance checking process and also impacts efficiency adversely. NIMHANS report 'Advanced Road Safety in India – Implementation is the key' lists various reasons for higher rate of accidents6. While couple of documents can be downloaded from DigiLocker website, others are yet to be digitised. The compliance solution should allow the users to store scanned images of these documents. The solution should allow the owner to enter the data for each compliance and alert the users about a compliance falling due in a specified time period e.g. one week or month

QR based solution for restaurant compliance

A customer walking into a restaurant is often concerned but oblivious to safety, security and hygiene conditions of the venue. Municipal corporations and State Governments have enacted many laws and rules to ensure these aspects. The licenses and permissions for cooking food, commercial use of premises and safety of the structure are granted after personal inspection by trained inspectors from health, building & factory and fire departments. The checklists for approvals are exhaustive in terms of safe storage and use of inflammable ingredients and fuels, electrical appliances, fire detection/ extinguisher equipment, ventilation etc.

The municipal and government staff diligently check for compliance. They also raise objections in case of any breach of the mandatory requirements. The licensing process makes it mandatory for restaurant owners to display category of the hotel and various permissions at a prominent place. The owners proudly display these to assure the customers, mostly behind the cashier

---

6. NIMAHNS published report on road and vehicle safety in 2017 highlighting Deficient human and technical resources to manage Road Safety and Poor level of enforcement among other reasons for high rate of accidents in India

#	Document	Form	Renewal	eForm
1	Fire Dept NOC	Physical document	Perpetual	Not available
2	Health Dept NOC	Physical document	Every year	Not available
3	Bldg & Const Dept NOC	Physical document	Every year	Not available
4	Tax	Physical document	Every year	Not available

However, due to rush or negligence, the customers overlook these. It would be extremely rare for a youngster to check the certificates, licenses and permits before entering a pub. The ambience, food variety and being a 'happening place' take precedence over safety and hygiene. Sometimes the place becomes very famous and the customers take pride in visiting it just for prestige or for being with the times. Crowds throng these places especially over weekends and late nights. The restaurants make the most of the available space to accommodate maximum number of customers and to grow their business. Often, a loft or mezzanine floor is added to create more sitting space. Access to such modified structures is very narrow and without any alternative escape route. Open space in front of the restaurant is covered with plastic material and converted into additional serving area. The end result is that there are more people than permitted during rush hours while the passages and exit points become narrow. This is the perfect recipe for commotion and stampede in case of an accident

As the competition grows, the restaurants try to bring in extra flavours such as Hukkah parlour or live barbeque or allowing parties with candle light arrangements (open flame). Taking fancy to these latest facilities, customers – especially the youngsters – make a beeline. It is observed
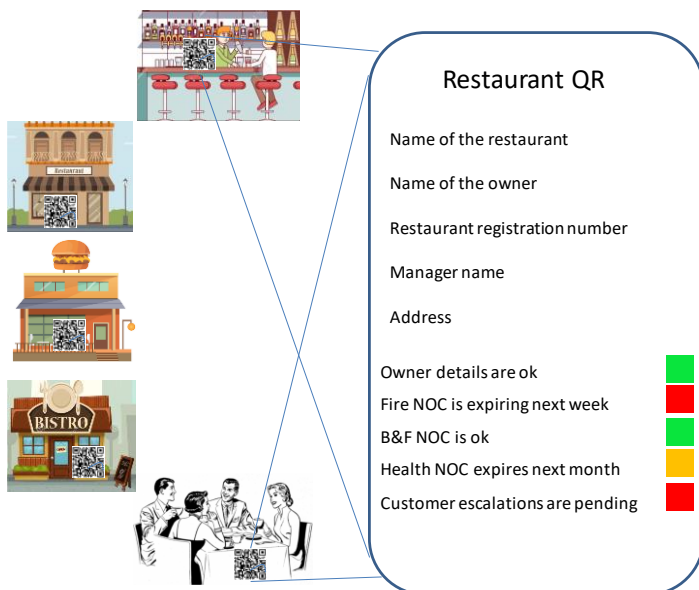

that advance booking is required for most of these high-end restaurants, pubs and resto bars. The last-minute walk-in customers are required to wait for at least an hour before entering the venue. Though there is enough time to check safety and hygiene aspects, no one cares about these

Generally, these illegal activities, temporary extensions, use of flammable material and lack of escape routes come to light only after any unfortunate incident like the fire at a pub and a roof top restaurant at Parel in Mumbai. After such incidents, the blame game amongst various departments begins in right earnest in order to shift the onus. In the end, it is often found that the no authority owns up the lapses. While it is necessary to go the root cause, the customers also have a role to play in such cases. Their negligence towards non-compliance by service providers or breaches is equally responsible for fatal accidents, fires and stampede

The proposed App will ensure that the necessary disclosures like 'No Objection Certificates' (NOC) for fire, hygiene and structural safety are made available to customers before they enter a restaurant. The App will allow the restaurant owners to enter details required while applying for NOC. The data can be verified by physical inspection by respective Municipal Corporation staff and authenticated. The owners will then be allowed to generate a QR code with necessary details. The customers can scan the QR code to check the safety aspects mentioned above. The app should enable the users to escalate any breach found at the venue. The municipal corporation staff can then visit the place again and re-verify the case. It will help to involve the people for whose safety all these rules are formulated. The efforts need support from regulators, transporters, vehicle manufacturers and authorities to bring much needed discipline7

Future possibilities for checking restaurant compliance
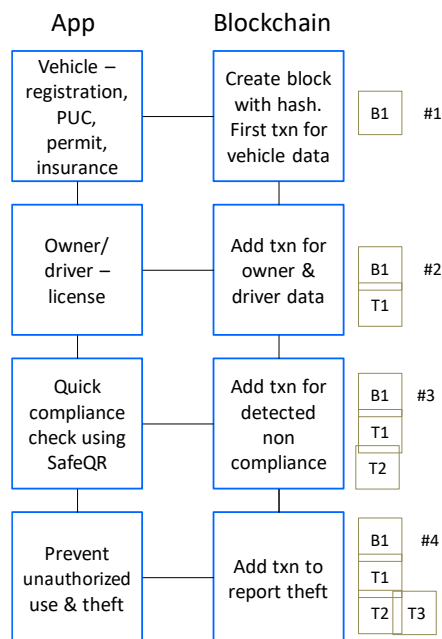
In future, the proposed App can have a workflow module to automate the process of granting permissions for NOC related to public services. The current setup requires physical documents to move from one department to another. At times, the other teams are not aware about granting of permission or rejection by the previous one. The silos created by manual work create situations where one department issues NOC while the other as per its norms rejects it. Yet the public service provider proceeds with the business pretending as if the the venue was compliant with all the requirements and that the Government body had issued approval to its proposal

The adjacent diagram shows use of Blockchain to store history of transactions for each case in immutable manner on a distributed ledger. The peer departments within the approving body will be able to see the current status of the application in real time. In case if the proposal gets rejected by one

7. The AutoCarPro report provides detailed analysis of road accidents and how various transport, vehicle manufacturers and trade associations are taking efforts at road and vehicle safety
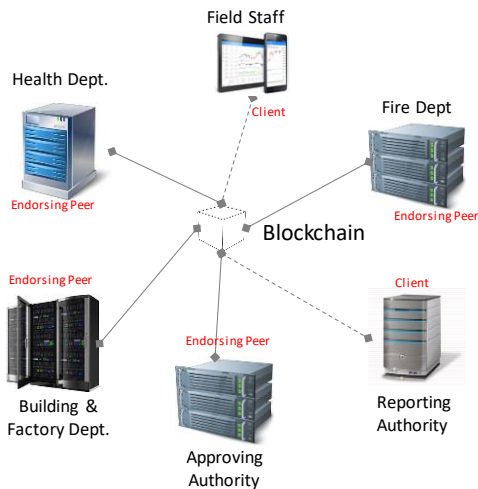

department, processing for that proposal may be stopped by the other departments. This will help to protect sanctity of the entire approval workflow. The approvers can also check complete history of permissions granted to the applicant, rejections, notices, penalties and fines levied. The unique identification number of the restaurant/ pub will be linked with the PAN and ADHAAR identification numbers of the owner/s. This will facilitate identification of the owner across a chain of restaurants. In case if any fine is pending for one of the venues, the owner can be made to fulfil the lapses before processing a new request. In this way, the solution will become smarter and intelligent by analysing the past decision by the approvers, keep track of applications with an eye on the past history and provide actionable inputs for more efficient decision making process

Future possibilities for checking vehicle compliance

In the current setup, vehicle registration is not connected with the driver license. Hence it
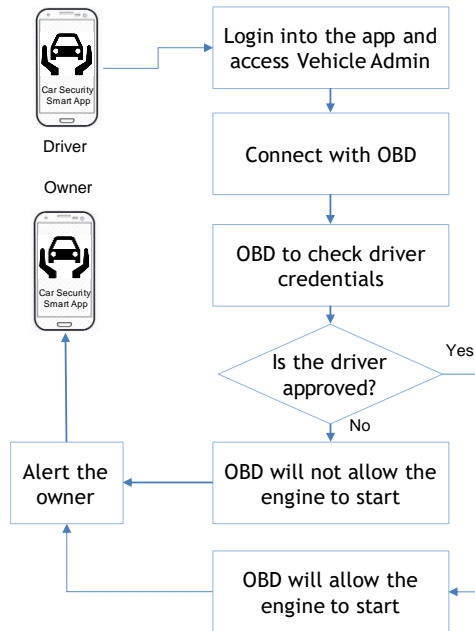
becomes difficult to identify who is driving a vehicle. The new application should use the On-Board Device (OBD) which is the on-board computer of the vehicle to store the registration number of the vehicle. The new solution should check if the driver is the owner or an authorised person whom the owner has permitted to drive the vehicle

This will link up the driver license with the registration number of the vehicle. If the owner has not authorised the driver, the solution should check the list of approved driving license numbers. If a number does not match, the OBD should not allow the engine to start. In case if the smart device of the driver malfunctions, a unique combination of headlights, turn indicators and horn could be configured to bypass the solution control mechanism. This will be a purely safety measure to be used in case of emergency only

When a commuter uses the public transport service, the QR code displayed on the door of the vehicle can be scanned. It will transfer the compliance details of the vehicle and the driver license to the smart device of the commuter. The user can then verify if the service complies

with the regulatory requirements by looking at the checklist generated after scanning the QR code. If the user does not feel safe, the user may decide against use of that particular service

References

1. Times of India report about increase in number of vehicles – https://timesofindia.indiatimes.com/city/mumbai/no-of-vehicles-in-city-up-50-in-5-yrs/articleshow/56302918.cms

2. DNA India report on Hon Mumbai High Court order directing the BMC to use app for letting people know about restaurant compliance – https://www.dnaindia.com/mumbai/report-bombay-high-court-suggests-bmc-to-come-up-with-app-notifying-on-fire-compliance-2688370

3. News report about an accident where a young boy was supposed to have driven a bus – https://www.news.com.au/news/boy-16-thought-to-be-bus-driver-in-crash-which-killed-at-least-33/news-story/5b6f2546f59789aa5d2a5cdc8686592e?from=rss-basic

4. Transport Research Wing of Ministry of Road Transport & Highways - http://www.indiaenvironmentportal.org.in/content/459084/road-accidents-in-india-2017/

5. ARAI proposal for AIS 140 – https://araiindia.com/hmr/Control/AIS/68201793238AMFinal_Draft_AIS_140.pdf

6. NIMHANS report on road safety http://www.nimhans.ac.in/sites/default/files/Advancing%20Road%20Safety%20in%20India%20Summary%20Report.pdf

7. AutoCarPro analysis of road accidents in India in the year 2017 http://www.autocarpro.in/news-national/road-accidents-in-india-claimed-405-lives--injured-1-290-each-day-in-2017-41006

About the author

Atul Arvind Patankar is Assistant Professor (IT and Finance) at Jamnalal Institute of Management Studies, Mumbai. He also consults startups as an Independent IT Consultant in Wealth Management and Capital Markets domain. He worked in the Financial Services Industry for about 8 years and for more than 18 years in the software industry. He has extensive experience in consulting with large banks, brokers and wealth managers in US, EU, Canada

and Japan. Atul worked on integration, implementation and testing of leading IT products used in front, middle and back office functions

Atul worked as a Member of the Board of Studies of Mumbai University. He was actively involved in restructuring the post-graduate management courses offered by the University. Currently he is pursuing PhD in Jamnalal Bajaj Institute of Management Studies (JBIMS), Mumbai. IP filing process was initiated for one of his inventions – 'FS Test Pack' by his previous employer

Behavioral Economics: Impact on the Financial Services Industry

Nizar Mesani,
Msc Finance Student
Jamnalal Bajaj Institute of Management Studies, Mumbai

Abstract:

Behavioral economics generally aims to provide a representation of human behaviour that is more psychologically realistic than the models of "rationality" constructed by traditional economics that presume individuals will use all available information and make the best decisions in order to get the greatest benefit. Research on behavioral economics, which combines findings from psychology and economics, suggest that a deeper understanding of human behaviour could improve decision-making by firms and could help them nudge their customers in the desired direction. However, there has been relatively little exploration of the potential application of this science to today's complex, large-scale and fast-evolving financial services industry.

This paper presents a more pragmatic perspective on behavioral economics that focuses on its value for banks and financial service institutions. We consider important principles from behavioral economics like mental accounting, availability heuristic, loss aversion and prospect theory, overconfidence bias, pain of payment, power of free (zero price effect), framing and anchoring effect and default bias. In doing so, we also discuss ways in which banks and financial institutions could leverage on these principles to expand their reach and create value for their clients.

Introduction:

Behavioral economics helps to describe and provide insights into how people fail to behave and make rational decisions and choices in their own best interests. Human beings do not always take decisions which are consistent with their own preferences and needs, they do not act in a rational way, and their choices are often driven by their emotions and their particular context. Mistaken beliefs, procrastination, passivity, self-control problems, difficulties in choosing among a large set of options are some of the elements which impact consumers' decisions and lead them to choose products or services which are not always best suited to their needs. Building on results from psychological, cognitive and social research into decision making, behavioral economics therefore explores why people make irrational decisions, and why and how their behaviour does not follow the predictions of economic models.

In the 21st century, money touches every part of our life, from family budgets to national politics, from shopping lists to saving accounts. Unsurprisingly, our irrational behavior is most commonplace when dealing with something as fundamental, and as emotionally-charged, as money management, with the vast majority of us committing the same mistakes over and over again. Thus as financial institutions begin to restructure their products and services to help customers take the right decision with their money a clearer understanding of behavioral economics is essential. Financial institutions motive must be obtain a broader perspective of client activity, transactions, mental state, and emotion in order to become more relevant and contextual for their customers. This paper aims to explore important concepts relating to behavioral economics while also studying about their relevance in current financial services industry.

Explanation of concepts and its relevance to financial services industry

1. Mental Accounting:

Mental Accounting refers to the tendency of the people to treat money differently, depending on its origin and intended use, rather than thinking of it in terms of the "bottom line" as in formal accounting. An important term underlying the theory is fungibility, the fact that all money is interchangeable and has no labels. In mental accounting, people think of money as less fungible than it really is. For example, a small windfall gain is more likely to be spent for a different purpose than the same amount as part of regular income. This can be seen in the incredible rates at which lottery winners end up bankrupt or how according to a recent study 80% of professional athletes have depleted their mammoth fortunes within just three years of retiring from the competitive field. But mental accounting also operates on a smaller scale, leading people to do things like spend an unexpected inheritance on a luxury purchase instead of saving it like they would other income or to change their long-term goals because they're too focused on the short-term performance of one particular "bucket."

Technology creates new frontiers for harnessing mental accounting to benefit both consumers and marketers. A credit card marketer, for instance, could offer a Web-based or mobile-device application that gives consumers real-time feedback on spending against predefined budget and revenue categories—green, say, for below budget, red for above budget, and so on. The budget-conscious consumer is likely to find value in such accounts (although they are not strictly rational) and to concentrate spending on a card that makes use of them. This would not only increase the issuer's interchange fees and financing income but also improve the issuer's view

of its customers' overall financial situation. Finally, of course, such an application would make a genuine contribution to these consumers' desire to live within their means.

2. Availability Heuristic:

There are two biases emanating from the availability heuristic: Ease of recall and retrievability. Because of the availability heuristic, our perceptions of risk may be in error and we might worry about the wrong risks. This can have disastrous impacts. Ease of recall suggests that if something is more easily recalled in memory it must occur with a higher probability. The availability heuristic distorts our understanding of real risks. When we make decisions we tend to be swayed by what we remember. What we remember is influenced by many things including beliefs, expectations, emotions, and feelings as well as things like frequency of exposure. Media coverage (e.g., Internet, radio, television) makes a big difference. When rare events occur they become very visible to us as they receive heavy coverage by the media. This means we are more likely to recall it, especially in the immediate aftermath of the event. However, recalling an event and estimating its real probability are two different things. If you're in a car accident, for example, you are likely to rate the odds of getting into another car accident much higher than base rates would indicate.

Retrievability suggests that we are biased in assessments of frequency in part because of our memory structure limitations and our search mechanisms. It's the way we remember that matters. The retrievability and ease of recall biases indicate that the availability bias can substantially and unconsciously influence our judgment. We too easily assume that our recollections are representative and true and discount events that are outside of our immediate memory. A study by Karlsson, Loewenstein, and Ariely (2008) showed that people are more likely to purchase insurance to protect themselves after a natural disaster they have just experienced than they are to purchase insurance on this type of disaster before it happens.

In the capital markets, whenever some bad news comes out about a company, everyone tries to get out of the sinking ship as quickly as possible. This causes the stocks to fall to dangerous levels. But in real the bad news might not be that bad to cause such a huge percentage fall in prices. This works equally well for the good news too. All investors want to get in the stock based on the latest good news and drive up the prices more than its value. This is completely opposite of the Efficient Market Hypothesis – at least in the short-term.

3. Loss Aversion and Prospect theory:

The principle of Loss Aversion states that the pain of losing something is about twice as powerful as the pleasure of gaining it. Such a phenomenon has been shown in a number of experimental studies in a broad range of contexts. Loss aversion can be explained by prospect theory, which states that an individual's value function (whether for money or otherwise) is concave for gains but convex for losses. In other words, people are more sensitive to losses compared to gains of similar magnitude. The pain of losing also explains why, when gambling, winning $100 and then losing $80 feels like a net loss even though you are actually ahead by $20. People's reaction to loss is more extreme than their reaction to gain. (The order here is also important — were we to first lose $80, then come back and win $100, it would shift our reference point and make it feel like a net gain!)

Prospect Theory argues that utility, or satisfaction, is not simply a function of risk and return, but that it also focuses on purchase price as a reference point. For example, an investor might purchase a stock near market top because he or she regrets missing a major market move, as many did near the peak of the Dot-Com bubble. A subset of those investors continues to hold the stock through the ensuing decline in the hope that the stock will recover. This behaviour is a function of investors not viewing a paper loss the same as a realized loss. The converse example illustrates the disposition effect – an investor who bought Apple five years before its peak, but sold the stock to book a profit after a year. While locking in a gain can provide an important measure of satisfaction, this investor did not receive the vast proportion of the stock's ultimate gain.

For investment professionals, the practical implications of prospect theory are profound. Their clients not only care about the total amount of their wealth but also about the path to amassing it. Investment professionals have their own set of biases that can cause them to follow the crowd. From a business perspective, their worst fear is to be both wrong – and alone. This leads to a pronounced tendency to err towards "benchmark hugging," or recommending investments that are popular or have worked well in the recent past.

4. Overconfidence Bias:

The overconfidence bias is the tendency people overestimate their own abilities, such as driving, teaching, or spelling, than is objectively reasonable. It usually trips us up in small ways, creating not a belief that they are exceptional at everything, but instead giving them blind spots about individual traits, like how quickly they can complete a list of chores or how their navigational skills compare to a GPS. When it comes to financial planning, overconfidence

tends to create the illusion that past success was the result of intrinsic skill, leaving little room for the role of external forces or plain luck. It's why overconfident investors frequently believe they can time the market, despite the high rate of failure for those who try. Price movements are notoriously unpredictable, and guessing wrong even a few times can significantly impact returns. For example, from 1997 to 2016, missing just 10 of the market's best days would cut an investor's return nearly in half compared to someone who stayed invested the whole time.

It's also why overconfident investors tend to believe their success with a particular strategy or kind of investment can be repeated. Believing their picks are sure to perform well, they might over concentrate their portfolios even though a wealth of evidence shows that a diversified, well-rounded portfolio has performed better over time. Often, overconfidence is the driving force behind the irrational exuberance that precipitates – or creates – a market crash. An overconfident CEO might be likelier to relax a financial institution's lending standards and make it more vulnerable to the shock of a crisis. And, on a smaller scale, an overconfident individual might assume their income will only go up, underestimating the possibility of losing a job or becoming incapacitated and needing long-term care.

James Montier conducted a survey of 300 professional fund managers and asked how many of them believe that they are above average in their jobs. Some 74% of fund managers responded in the affirmative, so 74% believed that they were above average at investing. And of the remaining 26%, most thought they were average. In fact, virtually no one thought they were below average, which, again, is impossible. Individuals struggle mightily to remain objective when assessing their own abilities. Their judgement is naturally skewed by their egos and associated emotions such as pride. The result is individuals often have inflated perceptions of their own capabilities. This bias might explain the reason for investment management firms to spend millions for arranging various investment conferences, as these conferences could provide a platform for fund managers or investment professions from various school of thought to discuss their investment ideas and rethink over their own personal investment psychology by not being overconfident of the same.

5. Pain of Payment

Studies suggest that we experience some form of mental or physical pain when we pay for things; shopping might provoke feelings of happiness, but when it comes to paying, the areas of the brain involved in processing physical pain are triggered. According to economic principle, the pain of payment should be identical for every dollar we spend. In marketing

practice, however, many factors influence the way consumers value a dollar and how much pain they feel upon spending it.

Retailers know that allowing consumers to delay payment can dramatically increase their willingness to buy. One reason delayed payments work is perfectly logical: the time value of money makes future payments less costly than immediate ones. But there is a second, less rational basis for this phenomenon. Payments, like all losses, are viscerally unpleasant. But emotions experienced in the present are especially important. Even small delays in payment can soften the immediate sting of parting with your money and remove an important barrier to purchase. In the modern world of online banking, using credit cards, e-wallets, automatic bill-payment is the equivalent of putting on little "financial helmets" to reduce the pain of paying.

Banks have the potential to decrease the pain of paying in daily lives, something that logically has greater benefits for them than the customer, though they would do well to place greater emphasis on enhancing the "pleasure" that comes from saving. It's a fact that in the future almost all the friction will be eliminated from payment systems. That's why to truly help their customers; banks need to focus on their customers' long-term financial health or saving rates.

Let's say a customer books a vacation. After registering the transaction, banks can proactively offer the customer competitive foreign exchange rates. The truth of the matter is that people feel pain when making payments that are not accounted for in our mental budget. How can banks help us to avoid that feeling? By stepping in to solve both last minute financial problems (so that unexpected issues don't impact on our finances), and think ahead about the long term, so that the future is under control.

6. Power of Free (Zero Price Effect):

The zero price effect suggests that traditional cost-benefits models cannot account for the psychological effect of a free good. A linear model assumes that changes in cost are the same at all price levels and benefits stay the same. As a result, a decrease in price will make a good equally more or less attractive at all price points. The zero price model, on the other hand, suggests that there will be an increase in a good's intrinsic value when the price is reduced to zero. The change in demand as a result of price changes is not linear, and there will be some switching from high-value to low-value goods. For years, advertising gurus have listed "free" on every compilation of powerful headline words. Now, research conducted by Dan Ariely (a Duke behavioral economist, previously at MIT) shows us that "free" is far more effective than

"almost free." Indeed, a preference for "free" seems to be another feature hardwired into our brains.

The most interesting example of the power of "free" in Predictably Irrational comes from Amazon.com. When they launched a "free shipping" promotion with the purchase of a second book every country except France showed a big jump in sales from the offer. The Amazon marketers investigated, thinking perhaps the French were rational enough not to be swayed into buying a second book. In fact, they found that in France the program had been slightly altered. Instead of zero shipping, the offer in France charged a mere one franc – about twenty cents. From a pure economic standpoint, the two offers are almost indistinguishable. In actual performance, though, the one franc offer caused no sales increase. (When the French offer was changed to FREE!, sales did indeed jump.)

In fact, not only can a business be very profitable by giving away an initial product or service for 'free' and get paid for a complementary or supporting solution – the classic "freemium" model – but by leading with something that's free, the business may actually grow and gain even greater adoption in the process. Arguably, this suggests that not only has offering financial planning for 'free' over the past several decades been a good business model, but it may have even helped to gain adoption and acceptance of the value of financial planning in the first place!

7. Framing and Anchoring Effect:

Framing effect, in general, is the tendency of the people's decision to get affected by the way in which the choices are framed. The perception changes as a function of some variation in framing. Suppose following experiment was conducted. To some of the participants, the following coin toss was proposed. In the case of tails, the payoff is 50, and zero otherwise. Alternatively, some participants were given a gift of 50, but they also have to participate in a coin toss that imposes a loss of 50 when the coin toss comes up heads. The way the above experiment is structured, participants end up with zero in the case of heads, and 50 in the case of tails. As such, the payoff is the same in both cases. Still, the description 'frames' the coin toss as a risky gain, while the second situation 'frames' the coin toss as a risky loss. The consequence will be that most people will agree to the first gamble, but not to the second

The power of this kind of relative positioning explains why marketers sometimes benefit from offering a few clearly inferior options. Even if they don't sell, they may increase sales of slightly better products the store really wants to move. Similarly, many restaurants find that the second-most-expensive bottle of wine is very popular—and so is the second-cheapest.

Customers who buy the former feel they are getting something special but not going over the top. Those who buy the latter feel they are getting a bargain but not being cheap. Framing effects may also help account for the rising popularity of valued-added bank accounts of the type offered by all major banks. The promotional material for such accounts often frames the benefit associated with such accounts with reference to the overall cost of individual elements of the package. However, in practice it is unlikely that all associated services are of use/interest to many account holders, so actual savings will be much smaller

The anchoring effect is a type of framing effect where the appraisal of options is affected by an original starting value (or anchor). This is despite the anchor being arbitrarily chosen. For example, when asked to value the same property after being given different anchor values, real estate agents gave valuations that were significantly correlated with the arbitrary anchors provided (although 90% of them denied being influenced!). Many of us are extremely sensitive to the way in which investments are framed. Simple word changes can have a dramatic effect on how particular investments are perceived by individuals and whether they are chosen or not. It is vital, therefore, that investors ensure that they get a fully balanced sense of all the investment options that are available to them and are not, inadvertently, influenced by information and statistics framed in such a way that distorts the real dynamics or the risks involved in a particular investment scenario.

To understand a different aspect of framing we can take example of Merill Lynch which took an interesting approach when it came to their retirement scheme - they asked users to upload photos of themselves and then ran a photo through an algorithm so users see what they would look like in 30, 40, 50 years, and so on. It seems like an odd feature for an investment bank, but it ended up working. Users felt more responsibility to prepare for the future and they changed their financial behaviour accordingly too. In this case framing was used by the company to portrait something which customers would have a hard time to imagine.

8. Default Bias:

One of the things that Richard Thaler has become known for is his concept of "nudge," which is that a small change to someone's environment that can have a big influence on their behaviour in economic situations. The most famous example of a nudge is forcing people to "opt out" of default options. Suppose you are signing up for a driver's license and you are asked whether you want to become an organ donor. Typically, to become an organ donor, you have to "opt in" by checking a box on a form. However, you could change the default on the

form and assume that everyone would be an organ donor unless they opt out of doing it. Research suggests that people typically stick with the default option on a form. That means policy makers can decide which option they want most people to choose and make that one the default.

The evidence is overwhelming that presenting one option as a default increases the chance it will be chosen. Defaults—what you get if you don't actively make a choice—work partly by instilling a perception of ownership before any purchase takes place, because the pleasure we derive from gains is less intense than the pain from equivalent losses. When we're "given" something by default, it becomes more valued than it would have been otherwise—and we are more loath to part with it.

Defaults may also have an important role to play in an individual's portfolio allocation decisions. Fund investment decisions will have a highly significant impact on returns enjoyed, particularly over a longer term time frame. Traditionally, in many cases, investors have been presented with a list of funds in which they may invest along with copious amounts of information on each fund detailing investment strategy, main holdings, fees, past performance and so on. Investors undoubtedly have all of the information necessary to make a rational, informed choice consistent with their investment objectives, risk preferences and other factors. However, in practice, investors often opt for the default option provided.

Defaults work best when decision makers are too indifferent, confused, or conflicted to consider their options. That principle is particularly relevant in a world that's increasingly awash with choices—a default eliminates the need to make a decision. The default, however, must also be a good choice for most people. Attempting to mislead customers will ultimately backfire by breeding distrust. When a default option isn't possible, financial service marketers must be wary of generating "choice overload," which makes consumers less likely to purchase. Large in-store assortments work against marketers in at least two ways. First, these choices make consumers work harder to find their preferred option, a potential barrier to purchase. Second, large assortments increase the likelihood that each choice will become imbued with a "negative halo"—a heightened awareness that every option requires you to forgo desirable features available in some other product. Reducing the number of options makes people likelier not only to reach a decision but also to feel more satisfied with their choice.

Conclusion:

In this digital era, with easy, fast and limitless options, decision-making has become even more difficult. Financial institutions can't predict user behaviour with absolute certainty, but they can help frame their financial decisions by understanding how choices are made, and designing solutions around them. This is where behavioral economics, the study of how and why we make decisions, can be a powerful tool for the financial service industry. The objective is to use the lessons provided by behavioral perspectives to enable companies to present choices in a manner that maximises take-up of products and services, encourages or engineers ongoing behavioral loyalty and thereby helps to cement relationships between firms and customers.

Behavioral Economics has taken the idea of Knowing Your Customer (KYC) to the next level where for financial service providers, truly knowing their users means understanding what makes them tick, their conscious and subconscious tendencies and what real, relevant financial service must look like. In today's so-called "eyeball economy", everyone is fighting for their share of eyeballs, for greater visibility, especially when so many challenger banks and FinTechs are vying for attention every day. Behavioral economics principles allow for a foundation and transparency in digital banking solutions and give those that truly understand the concept an upper hand while innovating and designing products and services.

Reference:

The Nudge, Improving Decisions About Health, Wealth and Happiness by Richard H. Thaler and Cass R. Sunstein

Misbehaving, The Making of Behavioral Economics, Richard H. Thaler, 2015

Thinking Fast and Slow, by Daniel Kahneman (2002 Nobel Prize Winner)

Predictably Irrational: The Hidden Forces That Shape Our Decisions by Dan Ariely

Behavioral Economics Guide- 2015, 2016, 2017 and 2018.

Nudging and Choice Architecture: Ethical Considerations. Cass R. Sustein, Discussion Paper, Harvard Law School. January, 2015

"Rethinking Financial Capability: Lessons from Economic Psychology and Behavioral Finance" Institute for Public Policy Research, Norwich Union, IRRR, London

Shampanier, K., Mazar, N., & Ariely, D. (2007)"Status quo bias in decision making," Journal of Risk and Uncertainty

Mussweiler, T., & Schneller, K. (2003). "What goes up must come down – How chartsinfluence decisions to buy and sell stocks". Journal of Behavioral Finance,

Galinsky, A. D., & Mussenweiler, T. (2001). "First Offers as Anchors: The Role of Perspective- Taking and Negotiator Focus," Journal of Personality and Social Psychology

Botti, S. & Iyengar, S. (2006). "The dark side of choice: When choice impairs social welfare," Journal of Public Policy and Marketing

Ross, M., & Sicoly, F. (1979). "Egocentric biases in availability and attribution," Journal of Personality and Social Psychology

Buell, R. W., & Norton, M. I. (2011). "The Labor Illusion: How Operative Transparency Increases Perceived Value." Management Science\

Thaler, R. (1999). "Mental Accounting Matters". Journal of Behavioral Decision Making

Prelec. D., & Loewenstein, G. (1998). "The Red and the Black: Mental Accounting of Savings and Debt." Marketing Science

Diacon, S. and Hasseldine, J.(2007)., "Framing Effects and Risk Perception: The Effect of Prior Performance Presentation Format on Investment Fund Choice", Journal of Economic Psychology

Financial Services Authority (2009) "FSA Factsheet: Improving Your Understanding of the Retail Distribution Review – Advisor Charging", FSA London.

Pester Power and its Effects on Children Buying Behaviour

Ms. Nicole D'Silva

Statistics Faculty, Mumbai, India

Dr. Bernadette D'Silva

Director

A.I's Allana Institute of Management

Studies, Mumbai, India

Dr. Stephen D'Silva

Senior Professor

Jamnalal Bajaj Institute of Management

Studies, Mumbai, India

Abstract:

Today, children have assumed a very important role of 'Influencers'. They are not mere consumers of various products like toys, chocolates, books, juices, ice creams, candies, etc., but are an important influencer towards purchasing of several home products including consumer durables like bicycles, mobiles, laptops, cars, television, etc. This shift in role from 'user' to 'influencer' can be accounted to the increasing exposure to television and other media like internet. Parents are realising the increasing impact television has on the minds of their kids. On one hand, many parents agree that children have become more knowledgeable today due to exposure to television, on the other hand they cannot ignore the increasing pester power of their little ones. The paper aims at understanding how much time children spend in front of television and whether it has potentially killed the many outdoor games, children once used to indulge in. A bigger perspective is to also understand the impact of advertisements on the eating behavior of the child and also on their increasing role as 'decision-takers' for various product categories. The research also explores the category of advertisements children like to view and also to understand the other factors that influence them.

Keywords: children, influencers, pester power, television.

INTRODUCTION

The television industry in India has boomed in the last two decades. From a mere two-channel network, today there are more than 200-channels available. In India, there are more than 30-channels for kids alone. This has led to an increase in television viewership as well. The children of today have started developing an increased addiction towards television. The amount of time they spend in front of the 'idiot box' has been steadily increasing over the years. But let us not forget, that all this in not without consequence. Children today are bombarded with a series of advertisements targeted towards them for several categories like food products, toys, health drinks, chocolates, clothing, etc. This increasing exposure to such product-related information ultimately translates to increasing demand for these products by children themselves.

Parents believe that too much advertisement exposure has resulted in the increasing pester power among their kids. Advertisements have a negative impact on the child's mind and make them naggers. Whenever a child comes across any new advertisement of a product, that is appealing to them, they start demanding the same from their parents. However, when the parents fail to meet the increasing demands of the child, the child indulges in disturbing behavior like excessive anger, tantrums, crying or even hitting or harming themselves if their demands are not met.

Parents are also concerned about the fact that television commercials are resulting into unhealthy eating habits among children. Eating of fast foods like Pizzas, burgers, chocolates and soft drinks has become a fad among children. Also snacking in between meals is on a rise with more and more advertisements of chips, crackers and fruit drinks being shown on television. This has resulted in obese children also.

Another area, in which television has left a mark, is that today's children are becoming more secluded and prefer being loners. They are content watching television alone, rather than playing outdoor games with friends. This has resulted in physical monotony and inadequate exercise among the kids. The yells and yelps of children, one used to hear in building compounds has become a thing of the past, thanks to the 'idiot box'.

LITERATURE REVIEW

Manish Mittal, Anisha Daga, Ginni Chhabra and Jyoti Lilani (2010) suggest that parents are noticing a change in the behavior of their children. They believe that this is the negative impact of television advertising. These children now nag and pester their parents to fulfill their array of demands from time to time. The study also highlights that children, now-a-days love to spend more time watching television as compared to any other activity. It also demonstrates that children demand more of the product whose advertisements they like

According to Laura, Terry, Martine & Gerald, the increasing food advertising on television is responsible for unhealthy food habits among children. They say that it deters parents from attempting to give healthy food to them. They feel that the children use their 'pester power' to their fullest advantage in compelling their parents to fall into their demands.

Singh & Sonoo (2005) reported that the British department of Trade & Industry was looking at measures like ban and fines for the advertisers, who use pester power to influence children's behavior.

Buijzen and Valkenburg (2003) also agree that increased exposure to television leads to unwanted demands from children, which parents fail to meet. This leads to conflict between them, thus resulting in negative behavioral traits among children.

Byrd-Bredbenner, Carol Grasso, Darlene (2000) feel that the amount of time high school children spend watching television is increasing and is even more than the time they spend at school. In fact, commercials impact the behavior of children in many ways, including requests, purchase and even consumption of the advertised products.

RESEARCH METHODOLOGY

Research Objective:

The basic objective of the paper is to understand whether the children like to watch television and also to understand the number of hours they spend in front of television. It also aims at assessing the influence of television advertisements on the children's' buying behavior. The study also explores the preference of the advertisements that the children like. It also analyses the opinion of parents on the impact of television on their children, whether it helps them to gain knowledge, increases their demands or leads to negative behavior.

Data Collection:

Primary data was collected by distributing a structured questionnaire among parents of children from the ages of 2–15 years of age in city of Mumbai. The questionnaire contained dichotomous as well as multiple choice questions. It also incorporated various parameters that were identified for analysing the preferences of children towards various television commercials.

Sample Size:

Primary research was done through distribution of structured questionnaires amongst 150 parents in the city of Mumbai. Convenience sampling technique was used for period of two months (December 2018 & January 2019).

Research Design

The research is basically focused on the understanding parental perception on how television influences their children. The data was analysed by using statistical packages like SPSS. Different statistical tests like chi square, factor analysis; cross tabs, Friedman test of Ranking etc. were performed on the data collected for the purpose of testing the hypothesis.

FINDINGS & ANALYSIS

H_0 (1): There is no significant relationship between the type of advertisements preferred by children and the impact caused by these advertisements.

H_1 (1): There is significant relationship between the type of advertisements preferred by children and the impact caused by these advertisements.

Table (1) Ads liked * Ads impact Cross tabulation

		Ads impact				
		Knowledge increases	Unhealthy food	Demand increases	Negative behavior	Total
Ads liked	Toys	13	22	5	8	48
	Health drinks	7	2	2	2	13
	Chocolates	11	16	15	10	52
	soft drinks	0	2	6	0	8
	Clothes	0	6	0	2	8
	Food Products	4	4	6	7	21
Total		35	52	34	29	150

Table (1) Ads liked * Ads impact Cross tabulation

		Ads impact				
		Knowledge increases	Unhealthy food	Demand increases	Negative behavior	Total
Ads liked	Toys	13	22	5	8	48
	Health drinks	7	2	2	2	13
	Chocolates	11	16	15	10	52
	soft drinks	0	2	6	0	8
	Clothes	0	6	0	2	8
	Food Products	4	4	6	7	21

Table (2) Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	38.528[a]	15	.001
Likelihood Ratio	40.488	15	.000
N of Valid Cases	150		

Data Interpretation:

From the above analysis, it has been found that the chi value stands at 38.528 and its p value is 0.001 which is quite lesser than 0.05 at 95% confidence levels. Thus, we reject null hypotheses and accept the alternative hypotheses. Only 33% of the parents feel that advertisements help in increasing product knowledge among their children. However, the remaining 67% of the parents feel that increasing advertisement exposure leads to unhealthy eating habits, increasing demands or negative behavior in children. 62% of the parents feel that their children prefer food-related advertisements, which also results into eating of junk food and soft drinks. Therefore, we accept the alternative hypotheses that there is significant relationship between the type of advertisements preferred by children and the impact caused by these advertisements.

H_0 *(2): There is no significant relationship between the number of hours television is watched by children during week days and the preference of doing other activity over television.*

H_1 *(2): There is significant relationship between the number of hours television is watched by children during weekdays and the preference of doing other activity over television.*

Weekdays

Table (3) Crosstab

		Prefers_TV_Over				Total
		Outdoor	Computers	Books	hobbies	
T.V_weekday	0-2 hrs.	25	27	27	9	88
	2-4 hrs.	19	13	19	4	55
	4-6 hrs.	3	2	2	0	7
Total		47	42	48	13	150

Table (4) Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.481^a	6	.871
Likelihood Ratio	3.065	6	.801
N of Valid Cases	150		

Data Interpretation:

From the above analysis, it has been found that the chi value stands at 2.481 and its p value is 0.871 which is quite higher than 0.05 at 95% confidence levels. Thus we reject alternative hypotheses and accept the null hypotheses. Almost 59% of children view television for less than 2 hours during weekdays. This is accounted because kids are busy with school and other co-curricular activities during weekdays. Hence, during this period watching television does not result into substitution over other activities like outdoor games, books, etc. Therefore, we accept the null hypotheses that there is significant relationship between the number of hours television is watched by children and the preference of doing other activity over television.

H_0 (3): There is not significant relationship between the number of hours television is watched by children during weekends and vacations and the preference of doing other activity over television.

H_1 (3): There is significant relationship between the number of hours television is watched by weekends and vacations and the preference of doing other activity over television.

a) **Weekends**

Table (5) Crosstab

		Prefers_TV_Over				Total
		Outdoor	Computers	Books	hobbies	
T.V_weekend	0-2 hrs.	5	7	8	7	27
	2-4 hrs.	28	33	30	4	95
	4-6 hrs.	14	2	10	2	28
Total		47	42	48	13	150

Table (6) Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	22.270[a]	6	.001
Likelihood Ratio	21.050	6	.002
N of Valid Cases	150		

b) **Vacations**

Table (7) Crosstab

		Prefers_TV_Over				Total
		Outdoor	Computers	Books	hobbies	
T.V in Vacation	0-2 hrs.	5	0	4	4	13
	2-4 hrs.	5	14	10	2	31
	4-6 hrs.	37	28	34	7	106
Total		47	42	48	13	150

Table (8) Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	17.956[a]	6	.006
Likelihood Ratio	18.678	6	.005
N of Valid Cases	150		

Data Interpretation:

From the above analysis, it has been found that the chi value for weekends stands at 22.270 and its p value is 0.001 which is quite less than 0.05 at 95% confidence levels. The chi value for vacations stands at 17.956 and its p value is 0.006 which is quite less than 0.05 at 95%

confidence levels. Thus, in both the cases we reject null hypotheses and accept the alternative hypotheses. Almost 70% of children view television for more than 6 hours during vacations and around 64% of the children view for 4-6 hours during weekends. There is a remarkable increase in the viewing hours as compared to weekdays. It can be seen that more are more children are getting hooked on to television at an early age and hence prefer television as compared to a host of other activities like playing outdoor games, reading books, or developing their other hobbies. 30% of children seem to prefer television over each of the activities, i.e. outdoor games, reading books and computers. Therefore we accept the alternative hypotheses that there is significant relationship between the number of hours television is watched by children and the preference of doing other activity over television.

$H_0(4)$: *There is not significant relationship between the age group the child belongs to and the negative impact of television on the child's behavior.*
$H_1(4)$: *There is significant relationship between the age group the child belongs to and the negative impact of television on the child's behavior.*

Table (9) Age group * Ads negative impact Cross tabulation

	Ads negative impact					Total
	Strongly Agree	Agree	Neutral	Disagree	strongly Disagree	
Age group 0-5 years	7	18	15	9	0	49
6-10 years	6	35	15	5	0	61
11-15 years	15	18	5	0	2	40
Total	28	71	35	14	2	150

Table (10) Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	29.930[a]	8	.000
Likelihood Ratio	31.672	8	.000
N of Valid Cases	150		

Data Interpretation:
From the above analysis, it has been found that the chi value stands at 29.930 and its p value is 0.000 which is quite less than 0.05 at 95% confidence levels. Thus we reject null hypotheses and accept the alternative hypotheses. 67% of the parents either agree or strongly agree that watching ads on television has a negative impact on the child's behavior. However, this fact is

very strong in the age group of 6- 10 years where 40% parents assert the same as compared to 30% each in the age group of 0-5 years as well as 11-15 years. It looks like children in the growing age of 6-10 years are most susceptible to the powers of advertising. Therefore we accept the alternative hypotheses that there is significant relationship between the age group the child belongs to and the negative impact of television on the child's behavior.

H_0 (5): There is not significant relationship between the age group the child belongs to and who influences the buying behavior in the child.
H_1 (5): There is significant relationship between the age group the child belongs to and who influences the buying behavior in the child.

Table (11) Age group * Who influences Cross tabulation

		Who influences					Total
		Friends	Television	Siblings	School	Computers	
Age group	0-5 years	9	17	11	11	1	49
	6-10 years	26	22	3	8	2	61
	11-15 years	19	17	2	2	0	40
Total		54	56	16	21	3	150

Table (12) Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	22.465[a]	8	.004
Likelihood Ratio	23.533	8	.003
N of Valid Cases	150		

Data Interpretation:

From the above analysis, it has been found that the chi value stands at 22.465 and its p value is 0.004 which is quite less than 0.05 at 95% confidence levels. Thus we reject null hypotheses and accept the alternative hypotheses. In the age group of 6- 10 years, 40% parents feel that their children are highly influenced by friends and television. This is 30% each in the age group of 0-5 years as well as 11-15 years. An overall analysis shows an equal influence of 37% being

accounted by both friends and television. The peer group pressure along with the advertisement power is what is turning the children into naggers. It should be also noted that younger children in the age group of 0-5 years are more influenced by their siblings as compared to their friends. 25% of the younger kids fall into this category. This is generally because they try to ape their older sibling. Therefore we accept the alternative hypotheses that there is significant relationship between the age group the child belongs to and who influences the buying behavior in the child.

H_0 (6): There is not significant relationship between why a child demands a product and who influences the buying behavior in the child.
H_1 (6): There is significant relationship between why a child demands a product and who influences the buying behavior in the child.

Table (13) Why_child_demands * Who influences Cross tabulation

		Who influences					
		Friends	Television	Siblings	School	Computers	Total
Why child demands	product utility	16	17	0	2	0	35
	television	23	29	10	8	2	72
	cartoon/celebrity endorsed	5	2	6	6	1	20
	friends have it	10	8	0	5	0	23
Total		54	56	16	21	3	150

Table (14) Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	30.630[a]	12	.002
Likelihood Ratio	36.322	12	.000
N of Valid Cases	150		

Data Interpretation:

From the above analysis, it has been found that the chi value stands at 30.63 and its p value is 0.002 which is quite less than 0.05 at 95% confidence levels. Thus we reject null hypotheses

and accept the alternative hypotheses. It can be clearly deduced from the above data that only 23% of children buy a product actually because of its utility value. 48% of the parents feel that it is only television advertising that lures their children into making unreasonable demands for the product, though the product may not have any use for the child. Endorsement by a cartoon character does not hold much charm for children according to the data. However, one cannot ignore the influential role played by friends for buying of products. Therefore, we accept the alternative hypotheses that there is significant relationship between why a child demands a product and who influences the buying behavior in the child.

H_0 (7): The age group the child belongs to does not have a significant relationship with the satisfaction of the child's demands by parents.
H_1 (7): The age group the child belongs to does have a significant relationship with the satisfaction of the child's demands by parents.

Table (15) Satisfy demands * Age group Cross tabulation

		Age group			Total
		0-5 years	6-10 years	11-15 years	
Satisfy demands	yes	20	36	22	78
	No	29	25	18	72
Total		49	61	40	150

Table (16) Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.803[a]	2	0.149
Likelihood Ratio	3.818	2	0.148
N of Valid Cases	150		

Data Interpretation:

From the above analysis, it has been found that the chi value stands at 3.803 and its p value is 0.149 which is higher than 0.05 at 95% confidence levels. Thus we reject alternative hypotheses and accept the null hypotheses. It can be clearly seen from the above data that 53% of the parents satisfy the demands of the child on a regular basis, whereas only 47% of them deny all the demands made by the children. The trend about not fulfilling the demand of the kids seems

a little high in the age group of 0-5 years, where 59% of parents don't fulfill all the demands of the child. But in the other age group, there seems to be no such significant result. Therefore we accept the null hypotheses that the age group the child belongs to does not have a significant relationship with the satisfaction of the child's demands by parents.

H0 (8): There is no significant difference in the categories that the child influences the purchase decision.

H1 (8): There is significant difference in the categories that the child influences the purchase decision

Table (17) Friedman Test Ranks

	Mean Rank
Games	1.92
Clothes	2.94
Educational	2.90
Food	3.34
Electronic	3.90

Table (18) Test Statistics

N	150
Chi-Square	131.691
df	4
Asymp. Sig.	.000

Data Interpretation:

From the above analysis, it has been found that the chi value stands at 131.691 and its p value is 0.00 which is quite lesser than 0.05 at 95% confidence levels. Thus we reject null hypotheses and accept the alternative hypotheses. Friedman Ranking test has been used to derive mean ranks on the basis of parents' opinion about different products, whose buying is influenced by children. Table 17 has ranked different product categories on basis of their mean scores. The product with lowest rank i.e. games is the one whose purchase is most influenced by the child. On the other hand, children don't seem to influence the purchase of electronics much since it has lowest rank. Thus the analysis continues to remain same for the other products too. In Table 18 it has been explained that children do have their own way of influencing the purchase of

several products. Products like games and educational products have a higher influence by children. The influence for electronic items as well as food preferences is not much by children. Parents seem to be influencing these decisions more. Thus it can be said that children do have specific and heterogeneous preferences towards selecting certain products for their own consumption and usage.

Factors influencing changes in the buying behavior of children

Table (19) Factors Influencing change

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	lifestyle	52	34.7	34.7	34.7
	Mktng & Advtg	64	42.7	42.7	77.3
	society	21	14.0	14.0	91.3
	Family structure	13	8.7	8.7	100.0
	Total	150	100.0	100.0	
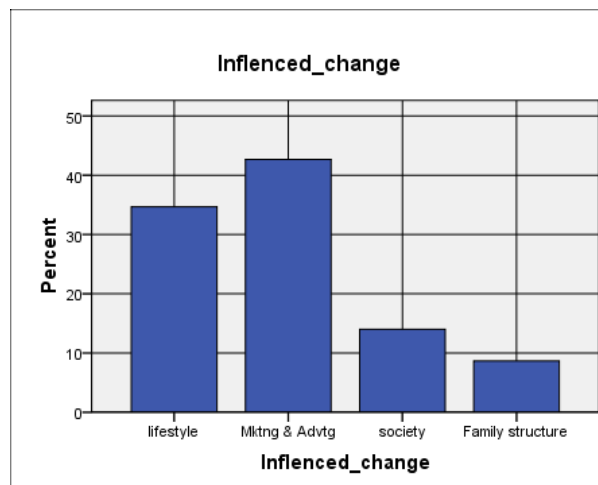
Data Interpretation:

From the above frequency table and bar chart, it can be seen that the factor that seems to trigger the child's buying behavior the most is marketing and advertising, which is shown on television, which is as high as 42%. The numbers of advertisements targeting the children are on a rise and this seems to be the factor which woos them the most. The changing lifestyle at 35% is the next influential factor. The changes in the society and the family structure do not have much relevance as far as the buying behavior of children is concerned.

MAJOR RESULTS

The research paper has helped us to understand the perception of parents about the buying behavior of children. As the analysis clearly indicated, the children and teens of today are clearly spending a lot of their precious time in front of television. It has been deduced that many of them prefer watching television as compared to other lucrative activities like playing outdoor games, developing their hobbies or even reading educational and story books. This is definitely a negative trend, as it is more likely to make children into loners, who only like to spend time alone and this will also reduce their social interaction.

Another highlighting fact is that the children are highly influenced by the advertisements, which are intentionally targeted at them by several marketing companies. Be it products like toys, games, clothes or even junk food products and soft drinks, children have a greater voice and opinion about their purchase than ever before. Not only do they assert their preferences, but also go to the extent of nagging and pestering their parents to meet their demands on a regular basis. When these demands are not fulfilled by parents, it results into aggressive behavior by children including anger tantrums, self-denials, etc. Only a few parents feel that advertisements actually help to build knowledge of the child and make them more informative.

Further analysis also helps us to understand the increasing role of peer group on children's needs and wants. Children prefer to ape their friends and tend to demand those products, which their friends possess. What is noteworthy is that many of these products are demanded by them, even though they may not have utility or relevance for them. Most of the parents; however tend to fulfill the demands of their child on a regular basis. This can be accounted to having just 1 or 2 children, now-a-days as compared to olden times.

Finally, it will not be incorrect to conclude that parents feel that television is a waste of time; it creates a bad effect on the mind of the children and they also feel that it has harmful effect on the eyes. They brand their children as 'television addicts', which like any other addiction, is difficult to overcome.

IMPLICATIONS

The research on 'Pester Power and its effects on children buying behavior' clearly indicates the increasing role that children play as 'influencers' as well as 'users' of several product categories. It will not be incorrect to state that children have today taken over the role of being

'opinion leaders', who directly or indirectly participate in the decision making process. It implies that the marketing companies have to focus their resources to capture the attention of this target segment.

Marketers need to use creativity ways to create an impression on these young minds. New and innovative advertising methods in form of special events for children or advertising at play zones and fun areas at malls will go a long way in creating a brand image among the children. Associations in children C.D's and movies are other forms of advertising that the companies can look into. Trying branding at venues where important 'school-days' such as annual days and sports days are conducted will also ensure an easy but effective way to reach these kids.

It is deduced that children love spending a considerable amount of time watching television. They prefer this over almost all other activities. Obviously, advertisers cannot neglect this most popular media and they have to ensure an adequate presence on television, supplemented by other IMC efforts. All this will go a long way in creating a Brand Identity among children and it is them, who are the future of tomorrow. Capture them young, and they will be yours for ever.....

References

- Manish Mittal, Anisha Daga, Ginni Chhabra and Jyoti Lilani (2010), "The impact of television advertising on children buying behavior"- The IUP Journal of Marketing Management.

- Indiantelevision.com (2006), "Kid Power: Excerpts from the Indian Survey", available at http://www.indiantelevision.com/marketdatabase/demographics/kidpower.htm

- Laura, Terry, Martine & Gerald (2006), "International food advertising, pester power and its effects" - International Journal of Advertising.

- Singh & Sonoo (2005), Article "Gov't plans to criminalise 'pester power' advertising" – Marketing week - Vol. 28 Issue 48.

- Buijizen M and Valkenburg P (2003), " The Impact of Advertising on Materialism, Parent- child Conflict, and Unhappiness : A Review of Research "

- Byrd-Bredbenner, Carol Grasso, Darlene (2000), "Health, Medicine, and Food Messages in Television Commercials During 1992 and 1998" – Journal of school health.

Marketing of Condoms in India

Karanbir singh
Indian Institute of Management, Calcutta
Sachet Jain, Indian institute of management, Calcutta

OVERVIEW & ABSTRACT:

For a category like condoms which at present should be a focus area where the population has crossed 125 crores mark, with average penetration of 5% with the urban sector at around 6% and rural sector mere 4% still presents a mind-boggling opportunity to the marketers across India. The global condom market is projected to grow at the rate of 9.8% during the forecast period, 2018-2023. The Indian condom market will grow at 7.9% CAGR.

A market of approximately 800 crores is being dominated by Manforce with a 32% share, followed by Moods at 12%, Skore at 10%, Kamasutra at 8%, Kohinoor at 7-8% and Durex at around 2-3%. Apart from this a lot of regional brands in different parts of country forms the major chunk of the pie India condom market is projected to reach $180 million by 2022 on account of rising consumer awareness about HIV/STIs through boisterous efforts of the Indian government bodies such as National AIDS Control Organisation (NACO) and AIDS Healthcare Foundation (AHF).The present condom market is dominated by latex products(about 90%) and non-latex products are also gaining market share which would provide a sigh of relief for consumers who are allergic to latex. Online market is going to increase by 7.7% in the coming years for the condom market but retail stores would still be the largest distribution channel. Logically expanding product portfolio of the leading players, rising youth population and increasing trend in average marriageable age are expected to act as the other major drivers for India condom market in the coming years.

Ideally pleasure and variety will be the by-words of the Indian condom industry. Colours are the new emerging differentiation criteria in addition to flavours. Innovative designs and rising popularity of e- commerce as the preferred market place where people can buy anonymously are the latest trends that are expected to dominate the market over the next few years. Drugs related to control and cure of AIDS have become less effective in recent years and this is a great opportunity to position condom as the primary option that would be used for preventing STDs. With male condoms dominating the market, female condom segment

is also getting popularity and is expected to contribute a significant market share in the coming years.

1. MOTIVATION:

1. Condom awareness level is around 65% in India and irrespective of that only 6 out of 100 people are using condoms.

2. The use of condoms as a family planning method is on the rise, but it is still below global levels. With India slated to become the most populous country in the world by 2030, according to the UN, there was a growing need to control population growth in states where fertility rate is still high.

3. The social stigma revolving around the use and views around condoms in India is one of the toughest segments to break into.

4. It is a highly challenging market with social restrictions and moreover, people refrain from talking about it and hence, analysis of this market is required. Using this research we wanted to understand the factors that are affecting the customer usage behavior.

5. In Spite of low penetration of condoms in the Indian Market, policy makers are still imposing ban on condom ads in the prime time(6 p.m. to 10 p.m.) due to explicit content of the ads further hampering chances of condom companies in India.

6. For the creation of an even larger market, proper sex education at homes and schools are needed as the appeal of explicit ads are clearly not working for companies and so proper insight into the Indian mindset is required.

7. People are not aware of the brands of condoms available in the market. Only 30%-40% people ask for a specific brand. This gives the retailer the power of influence and push the brand they want to sell. This lack of knowledge among people is something to be probed about considering a lot of advertisements being shown by the company. Condom usage varies a lot between various parts of India. Central and Western Indian states use more condoms (15.7% in Uttarakhand, 11.7% in Himachal Pradesh, 5.6% in Maharashtra, 4.8% in Madhya Pradesh) than south India (2.3% in Tamil Nadu, 1.7% in Karnataka and 0.5% in Andhra Pradesh) according to NCBI.

8. Female sterilization is the dominant family planning method in India. Couples in

whom either the husband or wife has been sterilized may not be motivated to use condoms according to National Center for Biotechnology Information.

9. Social marketing initiatives of subsidized condoms by the Government of India under National AIDS Control Programme (NACP III) have also failed to cause a significant impact in the market for condoms in India.

10. Only 4.9 condoms are used by Indians each year on average which is abysmally low as AIDS drugs have developed resistance and hence making condoms the primary option for preventing STDs.

2. GROWTH DRIVERS:

1. Premarital sex and casual sex with multiple partners are on the rise which lead to more sales of condoms thus increasing the growth.

2. Flavours and colours are now being explored and consumers are spoiled by the variety at their disposal thus consumerism is taking a foothold in the condom market as well.

3. Excitement and enjoyment are the keywords for this industry, making the category of products more interesting rather than a boring promotion line that it controls STDs only.

4. Distribution channels for this product has diversified as we now get condoms not only from pharmacists but also from kirana stores, supermarkets and e-commerce sites as well. Thus there is a lot of choice for the consumers to choose from.

5. The use of contraception (any method) in India has reduced from 56.3% in 2005-06 to 53.5% in 2015-16, after gradually increasing until 2005-06. Today, male sterilization is at its lowest in decades, and female sterilization is on the decline, too which is a good sign for the market.

3. RESEARCH DESIGN: TREE DIAGRAM

To structure the research methodology, we divide the population into condom users and condom non users. Among the condom non-users, there can be further 2 sub sections: the people who are aware of condoms but still do not use it, and the other sub-section who aren't aware of the product. We tried to be as mutually exclusive and collectively exhaustive as

possible. We came up with a hypothesis that the possible reasons driving the people not to buy the product in spite of being aware of it:

- Social Stigma

- Lack of Availability

- Price

- Substitutes

On the other hand, for the people unaware of the product, there is a need to educate the population about the product and structure a more effective marketing strategy.
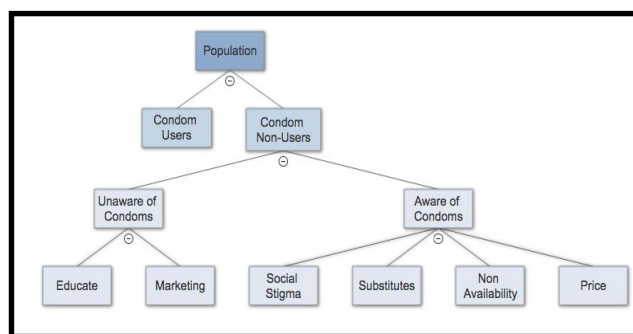
We wanted to get user insights specifically on each of the following topics, so as to come up with a strategy to address this:

I.   *Social Stigma:*

  ○ Comfort levels having a conversation around it

  ○ Buying preferences in local neighborhood stores

  ○ Customer opinions on condom usage

II.   *Availability*:

  ○ Proximity of condom availability

  ○ Online/Offline Preferences

  ○ Number of shops willing to visit before giving up

  ○ Brand loyalty

III.   *Price & Substitutes:*

  ○ Effect of price on buying patterns

  ○ Discounts, bundling and pack size preferences

- ○ Availability of substitutes

As tools for our market research, we decided to use qualitative and quantitative research. We leveraged qualitative research techniques like in-depth interview and Focus group discussion to understand the social stigma. We primarily used the quantitative survey to understand the people's buying patterns, product feature preferences and the impact of availability, price and substitutes.

4. SURVEY ANALYSIS AND RESULTS:

We used both quantitative and qualitative methods of market research like in-depth interviews, focus group discussions and surveys to get insights of the users, their product preferences, buying patterns and about the social stigma.

5.1 Qualitative Research:

5.1.a In-depth interview

Questions:

We have had interviewed 6 condom users to understand the basic market ideology and to further design the survey questions to strengthen the market claims.
The insights derived from the in depth interviews were revealing in terms of social stigma and general market psychology. We asked questions under the following heads:

1. *Social stigma*

The questions were designed to understand the social stigma behind use of condoms and live-in relationships.
These questions were intended to dwell into the consumer psychology and try to find out ways to quantify the same using survey analysis

2. *Price sensitivity*

Since price sensitivity plays a major role in the Indian market, we decided to question on the basis of the same. We believe that the customer is having a low price sensitivity, and hence we wish to qualify the claim through in depth interviews and further strengthen the claim

through survey analysis

3. *Brand perception*

This section was incorporated to analyse the current market scenario, and measure the brand recall and brand value among the customers. This was also designed to check the impact of advertisements, packaging, endorsers etc. and their impact on the purchase intention.

Insights and Analysis:

- Social stigmas play a great role in condom purchases (far away shops)

- Price loyalty is also seen among the users ; they are ready to pay for better quality and functionality but are not much affected by discounts

- They prefer to purchase online to avoid social apprehension & are planned purchases

- For ads, people look for a person brand fit and also they don't prefer sensuous ads

- The brand perception of Durex and Manforce are high compared to other brands.

- The condom market is an inelastic one, people do not compromise on price (100% wouldn't compromise on quality with price)

- *100%* people assume the main use of a condom is for contraceptive measures

- *100%* respondents submitted a "Yes" for the stigma against contraceptive measures

- *66%* people would go-to a different neighbourhood to another neighbourhood to buy a condom, mainly due to the fact that within neighbourhood shops are socially awkward.

- *100%* respondents have agreed that the MALE is the buyer of condoms, showing social stigma for female purchase in offline modes.

- *100%* respondents are aware of availability of condoms online, and also prefer to buy it online.

- *83.33%* of the respondents are indifferent towards the flavour IMP: Revealing: As flavours are what companies differentiate themselves upon.

- *DUREX:* Is assumed to be the brand with the highest market share: But it has just 2~3%. IMP: All credits to the brilliant marketing of Durex, lagged due to the

distribution

- Advertisement: MOODS: Used a different strategy to market the product, innovative and more oriented towards indian context.

5.1.b Focus Group Discussions:

To understand the basic demographics of the people in the focus group discussion and to have a context for the subsequent questions, we directed the discussion on when they heard of condoms first, their age and the source.

The responses were varied and we list the key insights below:

1. Sex Education played an important role in sensitizing people. Some of them had separate gender specific sessions at school

2. Some of them got aware from television, advertisements and were around 13 years old

3. From friends. Class 9,10

4. Government campaign to increase sales of condoms. Searched and educated by own self.

We then directed the discussion to get insights into availability and accessibility and its impact on buying patterns:

1. Metro cities - pretty available. Also available online

2. Vending machines for condom - But availability at odd hours a problem?

3. Not called by the name condom at different places (eg: Lucknow)

4. Vending machines available in cities like Patna as well. But people not aware at large

5. Tier 3 cities - not easily available.

6. Available in pharmacies

7. Doubt on brand recall, in tier 3 cities and lower economical areas

Social stigma

1. Metro cities, stigma addressed by online access

2. Difference in education, taboo in question

3. taboo/stigma is the fact that people are having sex, not condoms (2 people)

4. Tier 2,3 cities - may not buy at ease from pharmacies

5. Awareness campaign physically at tier2,3 cities. (Not just on tv/media). Health benefits and social benefits to be made aware

6. Price point of government too low and companies may not compete on price

7. Wrapping in bags, and covers. Stigma emerges

Use as contraceptive vs pleasure:

1. Created as contraceptive in the 1st place.

2. Opinion that condom hampers pleasure

3. Durex - Ultra thin, air etc to position as Point of difference against other brands.

4. Contraception common to all, augmented product is flavour, types etc

5. Indian population is highly influenced by advertisements and the brand endorseres (eg: Sunny Leone)

Stigma on man buying vs woman:

1. Men centric community. Safety

2. Stigma that women seen vulnerable if she is seen buying condom

3. Men are present in most of the pharmacies, hence a women are more uncomfortable to go and buy.

4. Women are judged more easily

5. Only couple of female friends who go and buy condoms themselves

6. Make a movie (similar to Padman?), bigger publicity, awareness

We played a few advertisements and asked the responses of the group on what they felt about it:

1. Layman - not targeted

2. Not a functional ad

3. Cute ad , works for chocolate

4. If not mentioned, no one would figure out the product, ex tinder, closeup etc

5.1.c Quantitative Analysis: Survey (Online)

We structured the quantitative survey questionnaire to cover questions from the following buckets:

1. Basic Demographics, awareness of product

2. User buying patterns

3. Apprehension and impact of social stigma

4. Preference for product features

5. Impact of marketing and the brand recall

Questions:

Basic Demographics, awareness of product:

1. What is your gender?

2. What is your age group?

3. Have you been sensitized on basic sexual education during your school days?

4. Do you think sexual education in the school days is important ?

5. From where did you get to know about condoms?

User buying patterns:

1. How much are you willing to pay for a condom pack of 10?

2. Which things do you consider while buying condoms?

3. What substitutes for condoms have you heard of?

4. Does a cheaper substitute affect your decision of buying a condom?

5. How far a distance are you ready to go for buying a condom, from your location?

6. Do you know condoms are available online?

7. Please specify your preference in terms of channel for buying condoms

Apprehension and impact of social stigma:

1. If buying from an offline location, do you have an apprehension of buying a condom

2. Why is there an apprehension ?

3. How does the society view the notion of buying a condom?

4. Asked to rate on different social stigma scenarios and their comfort levels

5. Who buys the condom in your scenario?

Preference for product features:

1. Please mention on a scale of 10 which packs do you prefer?

2. Which types of condoms do you know about? (you can choose multiple options)

Impact of marketing and the brand recall:

1. Please rank the below brands in terms of recall-ability.

2. What do you remember specifically about the brand?

3. Which brand do you think has the highest market share in India?

Analysis/Insights:

1. For the survey we have got 100 responses. We have tried to maintain diversity and

30% of the respondents are females and 65% are males and 5% chose not to disclose their gender.
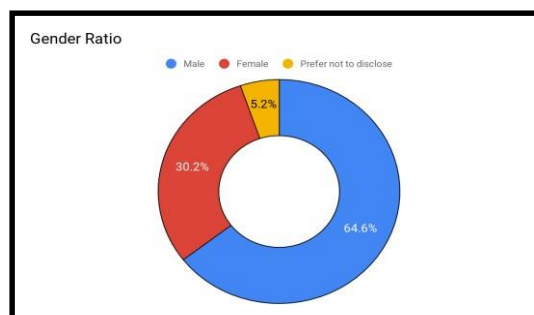
2. Amongst the respondents we have 20% in the age group of 18-23, 70% from 23-28 and 9% of the age group above 28 years.
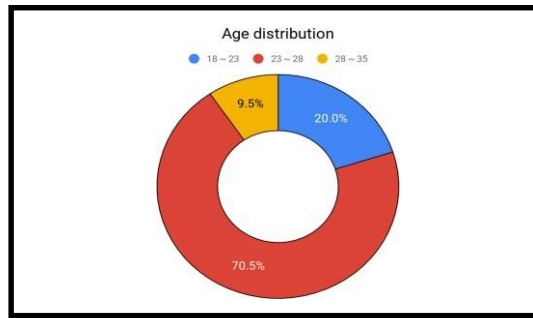
3. Sensitization during school:
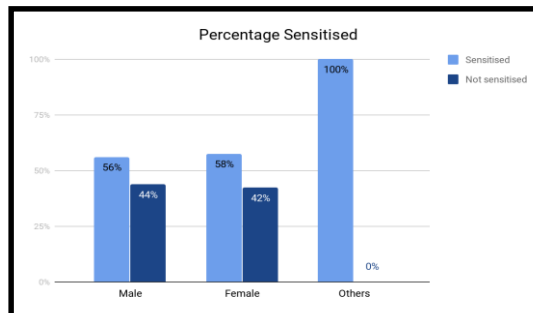
We found an astonishing fact wherein we got to know that 46% of respondents accepted the fact that they were not sensitized about basic sexual education in their school day

4. Need for sexual education

93% of the respondents felt the need of sexual education at the school as those are the formative years of one's personalities.
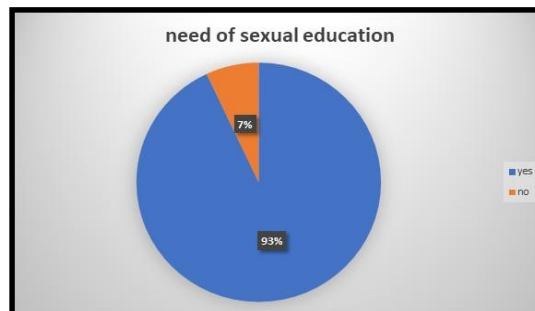

5. Talking about the alternatives for condoms which the respondents knew, emergency pills is the one with most awareness followed by contraceptive pills, female condoms and other alternatives. 3 people knew nothing about the alternatives of condoms.
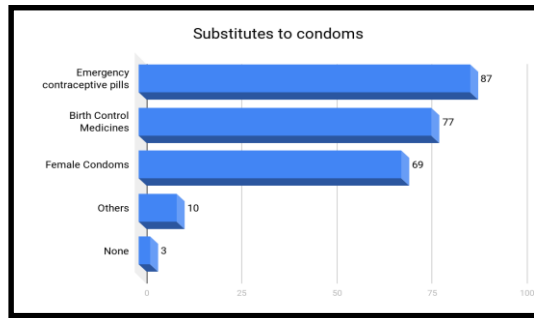
6. Factors considered during purchase of condoms

We had come up with a list of 9 factors including price, brand, ease of availability, advertisements, flavours, types, word of mouth, past experience, packaging on the scale of 1-7. Past Experience, Brand and availability are the most important factors considered while making buying decisions.
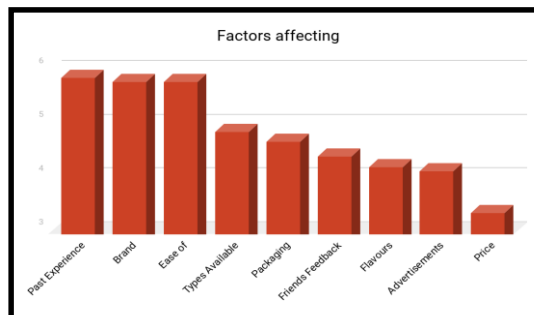

7. 55% of the respondents sticked to the fact that they won't change the brand that they use even in the presence of cheaper substitutes.37% said they may change based on other attributes and not just the prices.
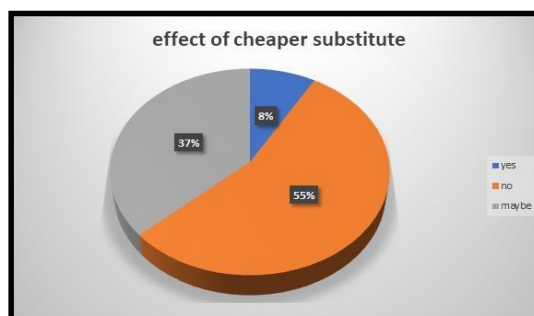

8. From the survey results, we infer that the sample of people we surveyed preferred online more than the offline means of distribution. However, it should be noted that the sample we tested may not be an exact representation of the entire population and we might have to extrapolate for the demographic diversity.

Preference levels : Offline v Online
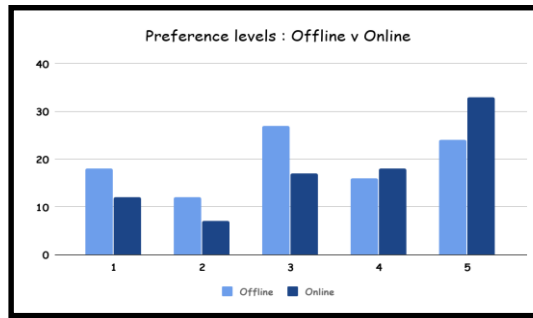
9. From the obtained results, we infer that people aren't willing to travel much to buy a condom. Hence availability should be top priority when coming up with a marketing strategy.

Distance travelled
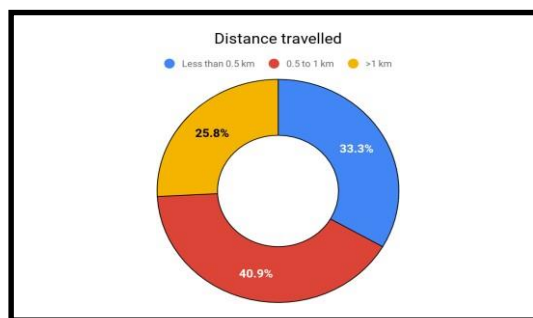
10. A whooping 78% sample space did not wish to travel to more than 2 shops to purchase their brand of condom, which tells us that the brand loyalty is very low in case of condoms


Shops visited
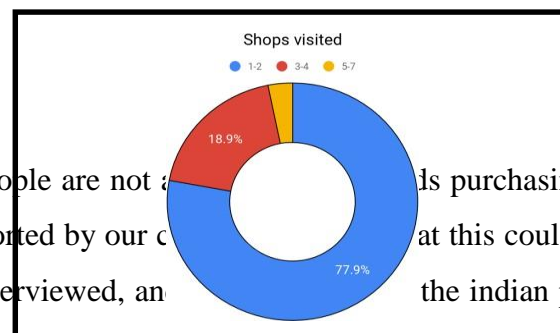
11. Since we found that 48% people are not a   ds purchasing condoms in offline stores, which is not supported by our c   at this could be due to the biased sample space we have interviewed, an   the indian population, we need to discount certain values.


Offline purchase apprehension
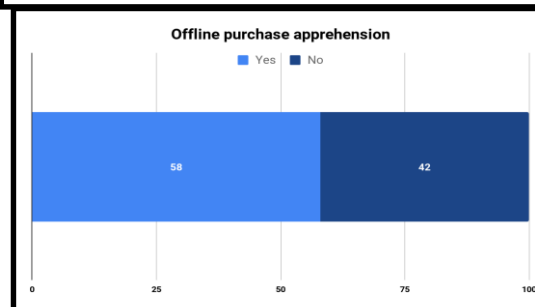
12. We have more than 82% people who believe that societal pressure is the major factor in preventing a person from buying a condom in a shop. This is a great insight, as if we are able to harness this in our favour, we can sweep the market.

Reasons for apprehensions
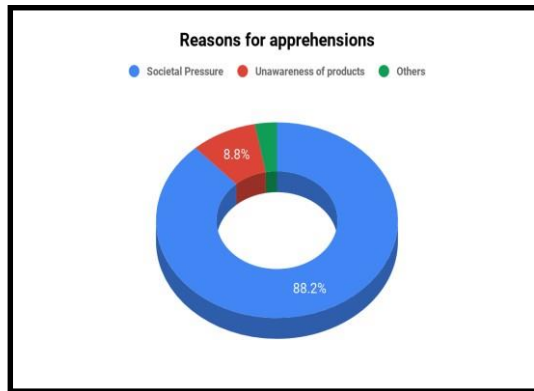
13. People usually least prefer greater than 10 pieces of condoms in a pack and most likely prefer 5-10 pieces in a pack, whereas they are indifferent towards 1-5 pieces per pack.

Level of preference
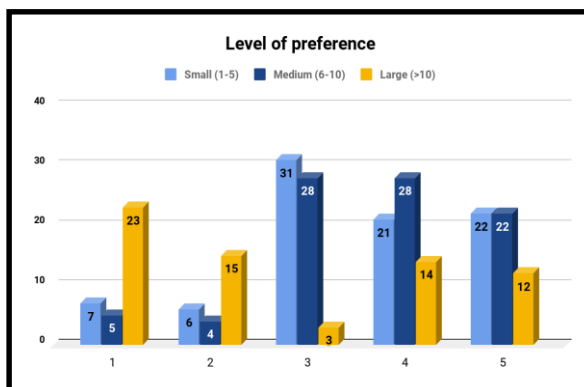
14. As per the awareness count, people were most aware of dotted type of condoms, and they have a decent knowledge of at least 3 types of condoms available in the market


Awareness extent
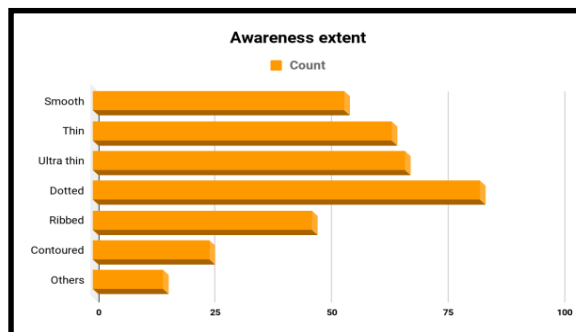
15. Durex has the highest brand recallability, and this is probably due to its brilliant marketing and extensive availability over various demographics spaces.

Recall-ability levels (1 highest)
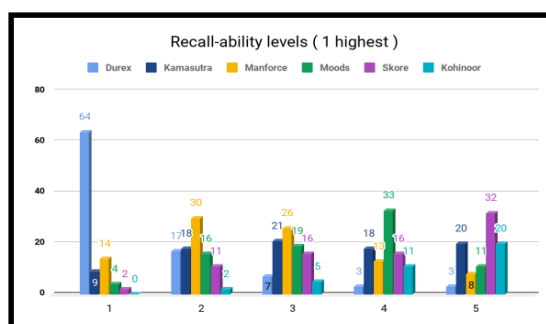
16. People perceives that Durex offers most variants as compared to other brands. However, Kamsutra has most no of variants available in the market. This could again be accounted to the marketing of Durex as a brand.
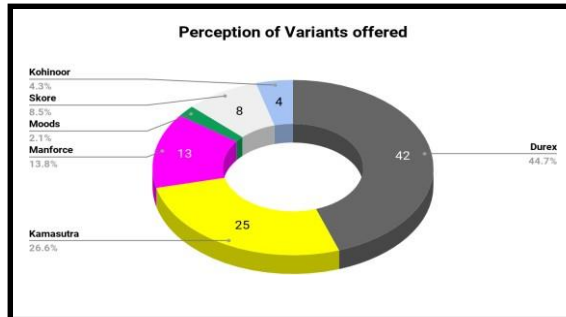
17. Most perceived and famous brand among survey participants was Durex. More than 50% of the survey population believes that durex is the market leader in condoms. However, Kohinoor is the leading player in the market.
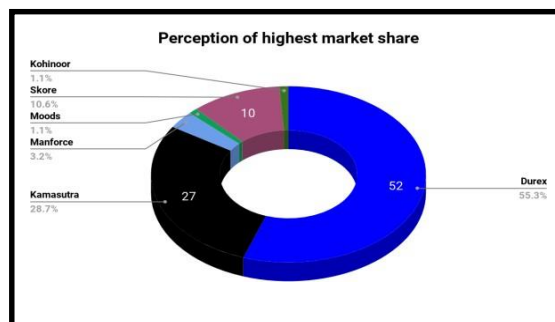
18. Innovational advertisements plays more important role in creating brand awareness as compared to availability and product effectiveness.
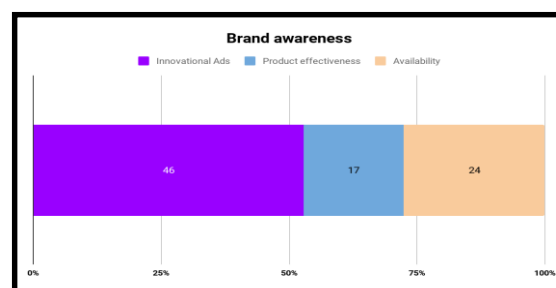
19. This is a clear indication of the societal framework hardwired in our systems, our apprehension towards condoms is more than 80% in favour of apprehension towards buying a condom
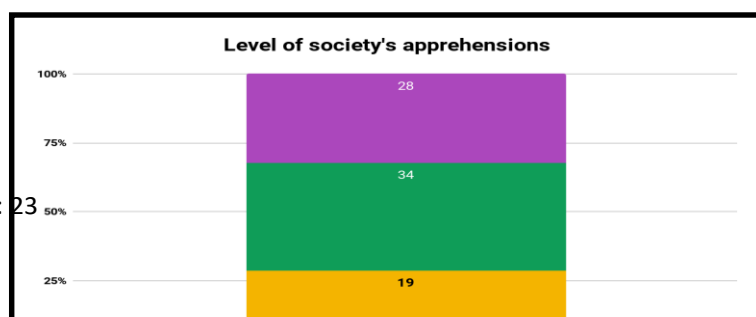
20. Durex had the highest brand recallability. This was a revelation as the market cap of kamasutra is way higher than Durex.
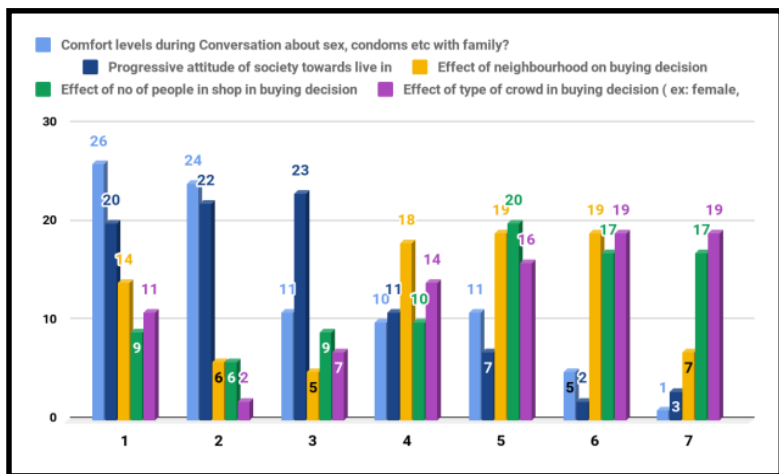
21. This graph shows the distribution of buyers. We can clearly see that male is the major buyer of condoms, and this can be related to the societal apprehension as depicted in previous graphs.
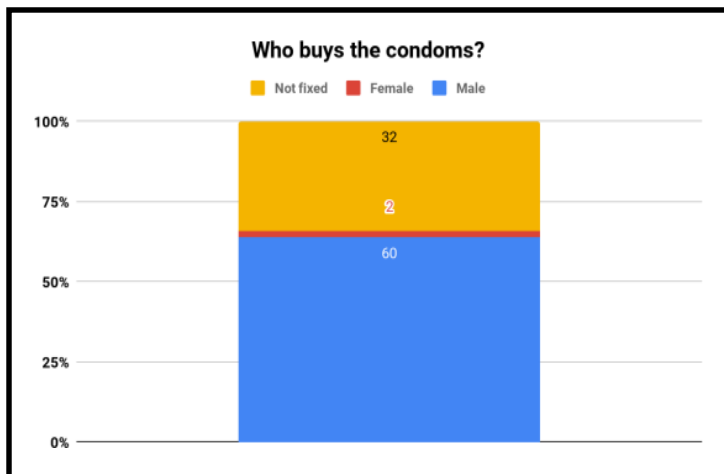
REGRESSION ANALYSIS

Spend v/s Price sensitivity: As per our analysis we have found that people who are less sensitive towards price in their decision making while buying condoms are willing to spend more as compared to more sensitive people. Also the average price sensitivity comes out to be 2.7 on a scale of 7 which shows that people are less sensitive towards price as compared to other variables

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.854402
R Square	0.730003
Adjusted R	0.726863
Standard E	22.82171
Observatio	88

ANOVA

	df	SS	MS	F	ignificance F
Regression	1	121104.6	121104.6	232.522	3.54E-26
Residual	86	44791.43	520.8306		
Total	87	165896			

	Coefficients	standard Err	t Stat	P-value	Lower 95%	Upper 95%	ower 95.0%	pper 95.0%
Intercept	229.3127	5.475562	41.87929	5.51E-59	218.4276	240.1977	218.4276	240.1977
Price	-27.6576	1.813773	-15.2487	3.54E-26	-31.2633	-24.052	-31.2633	-24.052

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.82274942
R Square	0.67691661
Adjusted R S	0.67315982
Standard Err	0.65569678
Observations	88

ANOVA

	df	SS	MS	F	Significance F
Regression	1	77.4684903	77.4684903	180.185145	8.2483E-23
Residual	86	36.9746915	0.42993827		
Total	87	114.443182			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	5.9374213	0.28920271	20.5303102	6.6476E-35	5.36250535	6.51233726	5.36250535	6.51233726
Brand	-0.65512465	0.04880502	-13.4233061	8.2483E-23	-0.75214581	-0.55810349	-0.75214581	-0.55810349

1. Brand stickiness:

As per our analysis we have found that the people who are brand sensitive prefer to stick to the same brand irrespective of any cheaper substitutes.

The most important variable which people consider in buying condoms are brand, Past experience and availability.

The most recallable brand among indian consumers is Durex. However durex has less variants and market share as compared to kamasutra. From our analysis we have found that the correlation between available market variants and market share is 0.23, so we can conclude that people are not much sensitive towards the various kind of variants available in the market.

6. Proposed Marketing Strategy:

Product:

- We have found that there are multiple flavors available in the market and people find it really difficult to select and get stuck because of choice overload. So, we are planning to cut down the number of flavours and also according to our research we have found that people are not much dependent on this attribute.

- Another idea that we have is having an option of Pack of 9 with 2 or 3 different flavours for the ones who want to try different kinds. This would also help in the promotion of the variants that we are offering.

- Image of new position on individual packets

- We are also thinking to create different packages for different occasions like birthday and anniversary packs for both self-use and gift purpose.

Place:

- We realised that distribution plays the most important role in the market share of companies. Hence the focus should really be on making the product available in as much locations as possible.

- Focus on Online: Most of the sample we researched about seemed to prefer online versus the offline method. Hence there is a need to educate people on using online apps to order condoms and make them aware of the availability online. The delivery lag time should be reduced as much as possible.

- Tie up with Hyper local delivries like Bigbasket, Amazon, swiggy which offer a less than 90 minute delivery.

- Introduce a subscription model (similar to Dallas Shaving club) for regular delivery of condoms directly to home.

- Look out for other avenues to collaborate and place the product. Some examples could be setting up more vending machines possibly near popular attractions like pubs/bars and also explore collaborating with tourist locations and more specifically with hotel chains like OYO couples and Stay Uncle.

Price:

- Since we have found that majority is not sensitive about the pricing part so, we are going with the premium pricing and also with this we will focus on ease of availability.

- All place options can go for premium prices as we are mostly targeting the urban population and the ones going pubs, discs etc.
- Simple price for vending machine that is we will have prices in the multiple of 100's something like Rs. 200 for pack of 3. This will increase both sales and revenues and people will pay a premium if we are making it available at these places.

Promotions:

- We are thinking of a subscription model wherein if our customers are online they just don't need to reorder multiple times and we will send it directly to them.

- We can also bundle the packs with female condoms which will also increase awareness for the female condoms.
- We will also have Lucky offers wherein 1in every 1 Lakh customers will get a honeymoon package or some travel package.

- Retailer promotion: We will also have a slab for retailers wherein we will set a target and if the retailer achieves that minimum sales target: they get a new holiday package or bonus as an incentive to push our product

- From our research, emotional advertisements have a greater impact on the user.

Upward responsiveness of business post government paradigm on Corporate Social Responsibility

Chandrakant Varma
Assistant Professor,
Thakur Institute of Management Studies and Research, PhD Researcher
Jamnalal Bajaj Institute of Management Studies, University of Mumbai.

Dr. Chandrahauns R Chavan
Professor
Jamnalal Bajaj Institute of Management Studies, University of Mumbai

Abstract

In today's business setting organizations have been trying to maintain the tempo of growth and expansion and facing test in building aptness and sustainability for the brand. The thought of sustainability has given immense importance to corporate social responsibility, as it helps build brand in both internal and external environment. It is visible with the brands which have been around for years now. Organizations also understand that mere monetary support by sparing a part of profit as donation may not create this impact of being recognized as an active social partner need to present themselves in forefront and be more visible. Hence to be sustainable in future organizations have been coming up with strategies which present them as an active partner of the society. The strategy is to link more or less all the business activities to CSR is seen to be important for achieving organizational sustainability. It is the moral obligation to do something for the betterment of others without expecting anything in return. It can be said with confidence that business isn't what it used to be. It is changing radically as a result of major societal forces such as technological advances, globalization etc. Yet with all the benefits and morals many organization show disinterest in CSR activities. To involve corporate in this drive of giving back to the society government has developed regulations. Companies Act, 2013 is a ground-breaking legislation as it has made India the only country in the world to have directive for CSR spending. This paper is focused on understand the outcome of mandatory CSR regulation on the corporate CSR spending After the new Companies Act made it mandatory for companies with a net worth of Rs 500 crore or with annual turnover of Rs 1,000 crore to spend under CSR, India's total CSR reporting increased by 27% in 2015, the maximum among 45 countries surveyed by international audit firm KPMG.In order to comply, Companies have CSR teams that formulate specific policies, strategies and goals for their CSR programs and set aside budgets to support them.

The study is based on secondary data which aims to study the CSR practices in India to share how social responsibility can be productively coupled with sound strategies to advance goodwill, while building sustainable and impressive businesses.

Key Words*: Corporate Social Responsibility, Economic and Social Development, Strategies, Sustainable Business,* Competitive Advantage

Introduction

Corporate Social Responsibility is not a recent subject. The foremost endeavour of any company is to reduce the costs and maximize returns. On the other hand, ethical business people recognize their responsibility to the public and to themselves. Fulfilment of these responsibilities constitutes ethical and socially responsible behaviour. Although corporate social performance (CSP) has been used for several years in the business and society literature, in many cases it has been used synonymously with corporate social responsibility, corporate social responsiveness, or any other interface between business and the social environment. The 21st century is already bearing witness to transformational changes in CSR philosophy, rule, and custom. Even in these early stages of the 21st century, CSR has achieved a new focus and prominence at the highest political levels worldwide. At the G8 Summit of world leaders in 2007, CSR clearly emerged from the shadows as a secondary global concern to enter the spotlight as a primary international policy issue of the same order as climate change, international security, sustainable development, and free trade and investment. The business case for the importance of socially responsible business activity is also now commonly accepted, even amongst business leaders.

More and more number of firms and companies has started to correspond information about ecological practices, societal actions and group, human right scheme, employee benefits in line with their Corporate Social Responsibility efforts (**Dhaliwal et al., 2014**). In the early 90's, very few of countries mainly including Europe and the USA significantly adopted CSR practices (**Volodina et al., 2009**). CSR is an rising practice in most transitional countries. Effective management of trade-offs between environmental, social and economic aspects of sustainability has been a decisive challenge for companies which further leads to the question that, how sustainability can be reconciled with a successful economic development (**Hahn & Scheermesser, 2006**).

Objective of the study:

- To explore the concept of CSR in Indian Corporate world.
- To understand impact of regulations on Indian companies in regards of CSR

- To explore the areas of CSR

Research Methodology:

The paper is conceptual and based on the data collected from secondary sources. Literature survey regarding the topic and related concepts has been done. Secondary data inclusive of qualitative data as well collected from various sources including books, research papers, newspapers, magazines, and websites is used for the purpose of study. Quantitative data has been collected from Ministry of Corporate Affairs (MCA), CSR India website, CMIE Economic outlook database etc.

Literature Review

The **WBCSD** defines CSR as "the continuing commitment by business to contribute to economic development while improving the quality of life of the workforce and their families as well as of the community and society at large.

The concept of CSR originated in the 1950's in the USA but it became prevalent in early 1970s. At that time US had lots of social problems like poverty, unemployment and pollution. Consequently a huge fall in the prices of Dollar was witnessed. Corporate Social Responsibility became a matter of utmost importance for diverse groups demanding change in the business. During the 1980's to 2000, corporations recognized and started accepting a responsibility towards society. According to Bowen, CSR refers to the obligations of businessmen to pursue those policies to make those decisions or to follow those lines of relations which are desirable in terms of the objectives and values of our society. Corporate social responsibility (CSR) focuses on the wealth creation for the optimal benefit of all stakeholders – including shareholders, employees, customers, environment and society. The term stakeholder means all those on whom an organization's performance and activities have some impact either directly or indirectly. This term was used to describe corporate owners beyond shareholders as a result of a book titled Strategic management: a stakeholder approach by **R. Edward Freeman in the year 1984**.

Frederick (1960) stated societal responsibility means that businessmen should oversee the process of a trade and industry system that accomplishes the expectations of the people.

Davis (1960) argued that social responsibility is a vague idea but should be seen in a professional structure. He asserted that some socially accountable business decisions can be

justified by complex method of interpretation as having a good chance of bringing long-run economic gain to the firm, thus paying it back for its socially accountable outlook.

Bajpai, (2001) a model CSR has both moral and idealistic dimensions, particularly in India where there exists a wide gap between sections of people in terms of income and standards as well as socio-economic status. **Chahal and Sharma (2006)** stated that CSR is the practice whereby a firm acts in a way that payback itself and its stakeholders.

Wood, (1991): CSR entail some kind of obligation, through corporate policies and act. This working view of CSR is reflected in a firm's social performance, which can be assessed by how a business manages its shared relationships, its social impact and the outcomes of its CSR policies and performance. it is only when a firm has effectively engaged itself in all four responsibilities then only it can be said that the firm has achieved total CSR in their locality, it is desirably if firms are able to give back to the society. Western countries place much greater emphasis on ethical responsibility in CSR (**Visser, 2008).**
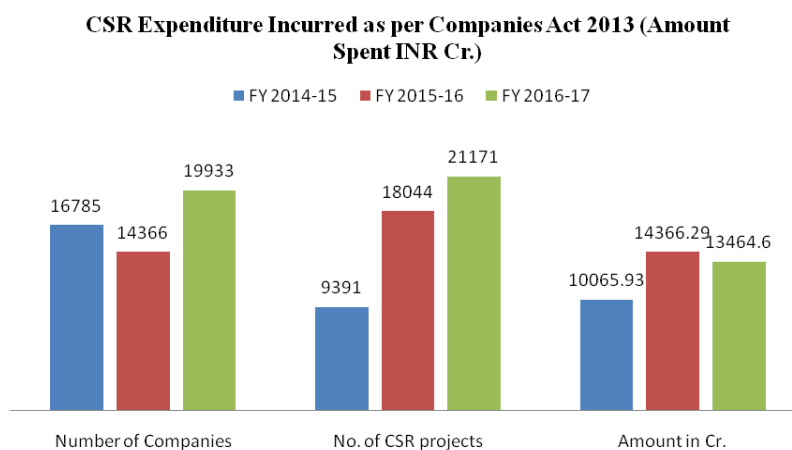
Goyder (2003) argues Industry in the 20th Century can no longer be regarded as a private arrangement for enriching shareholders. **Brickley et al. (2002)** also attributed that a company's reputation for socially responsible behavior constitutes a significant part of its brand capital. Over last three decades, many researchers have empirically tested the relationship between CSR and financial performance with chiefly optimistic outcomes **(Beurden and Gossling, 2008; Margolis and Walsh, 2003; Orlitzky et al., 2003).**The basic theory behind is that CSR boosts financial performance by improving the relationships of a firm with its foremost stakeholders. CSR is a concept through which companies integrate social and ecological concerns in their business operations and in their interaction with their stakeholders on a voluntary basis" (The European Union Commission (2002:5 pg.347l). **Bendixen et al. (2004)** studied that buyers are attracted towards the brand image built up by the implementation of the CSR activities & are keen to pay the specific price and decides to buy the products as an influential buyer because of the CSR initiatives adopted by the brand. **Maon, Lindgreen & Swaen (2010)** point to that CSR are the ordinary activities of organizations such as corporate strategic practices, manufacturing processes, decision-making and functional strategy. **Barnett, (2008)** stated that Firm's CSR activities are noticeably positive, by buyers and encourage them to buy products or services through its own brands, resulting in superior brand performance. CSR motives changed during the independence movement in India toward social reforms to encourage empowerment of women and rural development. In rural development, 68% of all researched companies have been working toward betterment of rural areas by providing infrastructure support such as building of check dams, revamping of water pumps

and laying down of roads to improve connectivity. Companies have also been working for rural development through organizing consciousness generation camps for issues such as domestic violence, female feticide, and importance of education among others initiatives **(Global; C. S. R. 2013)**. It is being increasingly recognized that progress and welfare of a society is not only the responsibility of the Government alone, but many more stakeholders need to be involved to attain the development goal. The commercial sector has a key role to play in ensuring private investment flows to those rural areas that have been left out of the growth so far and also to make effort for sustainable development of rural areas (***I Kumar 2016).*** Corporate sustainability is kind of evolution and not an ending process. Now, Indian companies have realized that, there can be no constancy and sustainability without socio-economic development of the local communities for doing business so as to compete with the global market. **(J Maniktala, L.C. Punjabi. 2016).**

Corporate Social Responsibility current scenario India

Indian corporate have increased social responsibility (CSR) spending over the last two fiscals, regardless of a restrained increase in net profits, says a survey Economic Times. The overall corporate social responsibility (CSR) spending by the top 500 companies in the country since the applicability of obligatory CSR in 2014 is likely to cross Rs 500 billion by March 2019, said a report. The CSR conformity is also likely to get better and fall in the range of 97 to 98 per cent by financial year 2019-20, according to a research done by development sector platforms CSRBOX and NGOBOX (Business Standard July 2018).

Chart 1. CSR Expenditure Incurred by Indian corporate 2014-2017

CSR Expenditure Incurred as per Companies Act 2013 (Amount Spent INR Cr.)

■ FY 2014-15   ■ FY 2015-16   ■ FY 2016-17

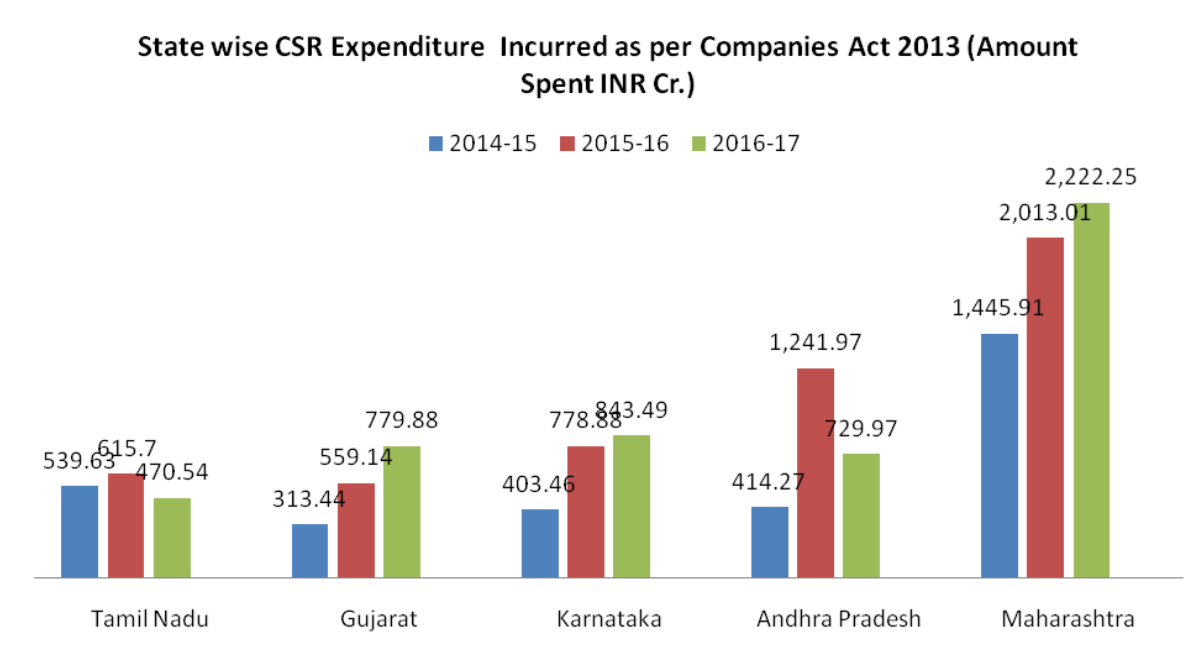|	Number of Companies	No. of CSR projects	Amount in Cr.
FY 2014-15	16785	9391	10065.93
FY 2015-16	14366	18044	14366.29
FY 2016-17	19933	21171	13464.6

India Inc's social spending crossed Rs 10,000 crore in year 2014-15, led by Reliance Industries and Oil & Natural Gas Corporation, Infosys, NTPC, BHEL, TCS, ITC, HDFC. Spending on corporate social responsibility projects increases by 40 % approximately, according to an analysis of 1,080 of 1,795 companies listed on the National Stock Exchange by PRIME Database Group. "CSR expenditure by NSE-listed companies has grown at a healthy CAGR of 16% over the last three years," said Pranav Haldea, managing director Prime Database. Number of companies which spend on CSR did see a dip from 2014-15 which was 16785 to 14366 in 2015-16 then increased to 19933 in year 2016-17. Similarly the number of CSR projects undertaken has also seen increase in the given three years.

In the recent past, there has been emphasis from the government for ensuring corporate spending for the wellbeing of the population, particularly the marginalized and underprivileged sections. This has positively resulted and increased the spending of corporate. The Ministry of Corporate Affairs presents the top spending companies in the year 2015, shows Reliance Industries Limited as the top spenders in India followed by other companies.

Chart 2. Top 5 companies CSR Expenditure Incurred by 2014-2017

CSR Expenditure Incurred as per Companies Act 2013 ((Amount Spent INR Cr.)

2016-17
- INFOSYS LIMITED: 289.44
- Hdfc Bank Limited: 305.42
- TATA CONSULTANCY SERVICES...: 380
- OIL AND NATURAL GAS...: 504.91
- RELIANCE INDUSTRIES LIMITED: 649.26

2015-16
- Itc Limited: 247.5
- Tata Consultancy Services...: 280.22
- Oil And Natural Gas...: 408.99
- Ntpc Limited: 491.8
- Reliance Industries Limited: 639.7

2014-15
- Tata Consultancy Services...: 218.43
- Bharat Heavy Electricals Limited: 239.11
- Infosys Limited: 239.54
- Oil And Natural Gas...: 495.23
- Reliance Industries Limited: 760.58

Chart 3. Top 5 states CSR Expenditure Incurred by 2014-2017


Source: https://csr.gov.in

In terms of sectors, education is expected to be the most favoured area of CSR investment in the coming years. In terms of states, Maharashtra receives the biggest chunk of the total CSR fund spent in the country, followed by Andhra Pradesh, Karnataka, Gujarat and Tamil Nadu, together accounting for one third of the country's total CSR spends, the report said. The CSR funding in north-eastern states of Nagaland, Meghalaya, Mizoram and Tripura have received lowest.

Following are the areas and activities in which corporate have been involving them self in social upliftment:

- Clean Ganga Fund
- Education, Differently Abled, Livelihood
- Encouraging Sports
- Environment, Animal Welfare, Conservation Of Resources
- Gender Equality, Women Empowerment, Old Age Homes, Reducing Inequalities
- Health, Eradicating Hunger, Poverty And Malnutrition, Safe Drinking Water, Sanitation
- Heritage Art and Culture

- Other Sectors (Technology Incubator And Benefits To Armed Forces And Admin Overheads)
- Prime Ministers National Relief Fund
- Rural Development
- Slum Area Development
- Swachh Bharat Kosh

Chart 4. Top 4 areas of CSR Expenditure Incurred by 2014-2017
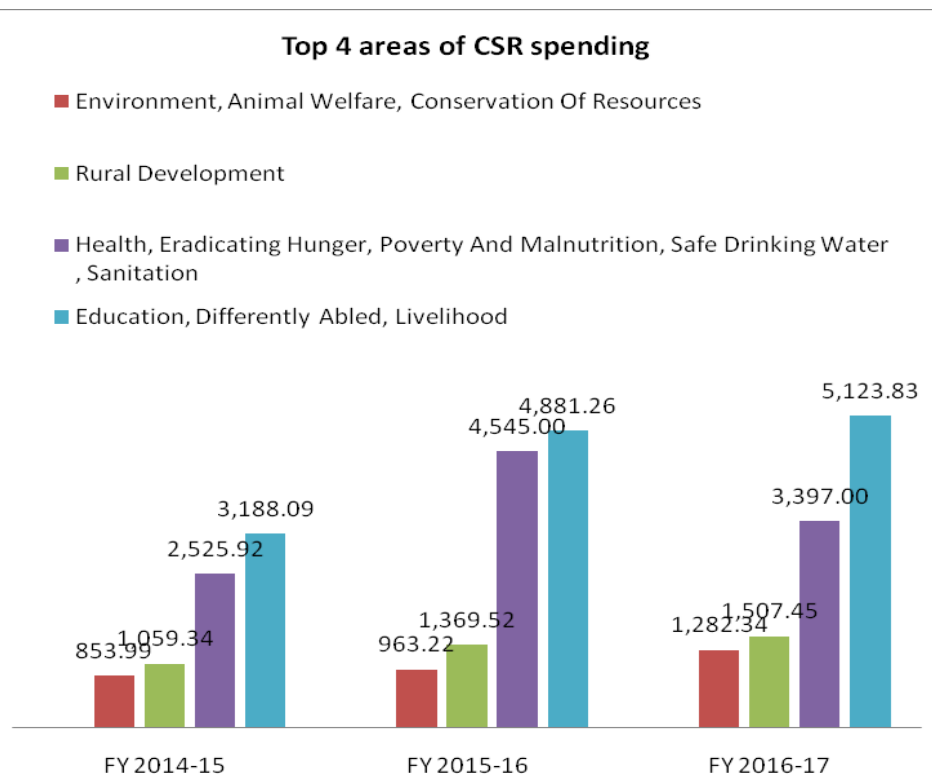
The highest share of funds was used for education skill building activities. Followed Health, Eradicating Hunger, Poverty And Malnutrition, Safe Drinking Water and Sanitation. Rural Development and Environment, conservation of resource being receiving fair share as well. Other key areas which witnessed an increased expenditure and interest were Clean Ganga Fund, Encouraging Sports, Gender Equality, Women Empowerment, Old Age Homes, Reducing Inequalities Health, Heritage Art and Culture Other Sectors (Technology Incubator And Benefits To Armed Forces And Admin Overheads), Prime Ministers National Relief Fund Slum Area Development, Swachh Bharat Kosh

Findings:

The positive impact of the mandatory CSR was found to be an increase in available CSR funds, an increased attempt by corporate to align their CSR activities with the nature of their business and involvement of SMEs in sharing social responsibility with large companies.

Some negative impact of the legislation were also found such as a possible increase in regional disparity due to the mandated preference for local area operations and pressure of government on Public Sector Undertakings to spend CSR funds on government schemes such as Swachh Bharat Kosh.

Overall this legislation will have a positive impact on Indian economy as it will help narrow the large funding gap between social needs and available public funds. However, it is suggested that government should do away with the requirement for giving preference to local area operations and should also create a common framework for all companies to report the impact of CSR initiatives so that this legislation can have a greater impact

The key focus areas of CSR spending in FY16 were education, skill development, healthcare and sanitation.

Among the trend shifts between FY15 and FY16 is the focus of firms on ensuring impact is the higher spend is being seen as a positive step towards increasing private sector involvement in social development.

Conclusion

Mandatory CSR has definitely resulted in a surge in funds available for developmental activities in India. Even though many corporate in India were already practicing some form of CSR, this act has pushed them to increase their CSR funds and align their CSR strategy with business strategy. Many SMEs have also been forced to take cognizance of their social responsibility and implement CSR policies within their companies. Overall the provision of mandatory CSR is expected to have a long-term positive impact on the society due to more availability and better utilization of development funds.

Companies operating in different socio-economic contexts and sectors address very different sustainability issues. Although some of these give greater attention to social issues, they betray a similar logic in terms of assumed relationships between CSR investments, sustainable development, innovation, improved reputation, wider relationships and business sustainability (**Moon, J. 2007).** It should be understood Sustainability is about building a society in which a proper balance is created between economic, social and ecological aims. For businesses, this

involves sustaining and expanding economic growth, shareholder value, prestige, corporate reputation, customer relationships, and the quality of products and services. It also means adopting and pursuing ethical business practices, creating sustainable jobs, building value for all the company's stakeholders and attending to the needs of the underserved (**Székely, F., & Knirsch, M. 2005**).

With the passage of the Companies Act, 2013 the mandate for corporate social responsibility (CSR) has been formally introduced to the dashboard of the Boards of Indian companies. The industry has responded positively to the reform measure undertaken by the government with a wide interest across the public and private sector, Indian and multinational companies.

The practice of CSR is not new to companies in India. However, what this Act does is bring more companies into the fold. Also, it is likely that the total CSR spends will increase. What is clear to many companies is that if this increased spendigm is to achieve results on the ground – which is the intent. India has a long way to go to catch pace with other countries as it still lags in overall spending on CSR as compared to other nations.

References:

- Bajpai, G.N (2001), Corporate Social Responsibility in India and Europe: Cross

- Bendixen, M. and R. Abratt: 2007, 'Corporate Identity, Ethics and Reputation in Supplier– Buyer Relationships', Journal of Business Ethics 76, 69–82.

- Beurden, P. V. and Gossling, T.: 2008, 'The worth of values – A literature review on the relation between corporate social and financial performance'. Journal of Business Ethics 82(2), 69-82.

- Bowen, H. R, Social responsibilities of the businessman(New York: Harper & Row, 1953)

- Brickley, J., Smith, C., & Zimmerman, J. (2002). Business ethics and organizational architecture. Cultural Perspective, available at http://www.ficci.com

- Davis, Keith, Can Business Afford to Ignore Social Responsibilities? (California Management Review, Spring, 1960)

- Frederick, W.C., The growing concern over business responsibility (California Management Review, Vol.2, 1960) pp. 54-61

- Freeman, R.E. Strategic Management: A Stakeholder Approach (Pitman Publishing: Marshfield, MA ,1984)

- Global, C. S. R. (2013). Summit (2013) Corporate Social Responsibility in India: Potential to contribute towards inclusive social development. Global CSR Summit.

- Hahn, T., & Scheermesser, M. (2006). Approaches to corporate sustainability among German companies. Corporate Social Responsibility and Environmental Management, 13(3), 150-165.

- I Kumar 2016, Challenges and Opportunities of Corporate Sector (CSR) in Rural India. International Journal in Management and Social Science Vol.04 Issue-02 (February, 2016)

- Jatin Maniktala1, L.C. Punjabi 2 2016, Corporate Social Responsibility: Perspectives and Challenges in Rural India, IOSR Journal of Business and Management (IOSR-JBM) Special Issue - AETM'16 Journal of Banking & Finance, 26, 1821–1835.

- Maon, F., Lindgreen, A., & Swaen, V. (2010). Organizational stages and cultural phases: A critical review and a consolidative model of corporate social responsibility development. International Journal of Management Reviews, 12(1), 20-38.

- Mark Goyder, Redefining CSR: From the Rhetoric of Accountability to the Reality of Earning Trust (Tomorrow's Company, 2003)

- Orlitzky, M., Schmidt, F. and Rynes, S.: 2003, 'Corporate social and financial performance: A meta-analysis'. Organization Studies 24, 403-441.

- Székely, F., & Knirsch, M. (2005). Responsible leadership and corporate social responsibility:: Metrics for sustainable performance. European Management Journal, 23(6), 628-647.

- The European Union Commission (2002) Corporate Social Responsibility: A business contribution to Sustainable Development COM (2002) 347 final, 2 July 2002, Brussels.

- Volodina, A, Sax, S. & Anderson, S. (2009). Corporate Social Responsibility in Countries with Mature and Emerging Pharmaceutical sectors. Pharmacy Practice, 7 (4), 228-237

- Wbcsd, W. R. I. (2004). The greenhouse gas protocol. A corporate accounting and reporting standard. World Business Council for Sustainable Development and World Resources Institute: Geneva, Switzerland, 116.

- Wood, D.J. , Towards improving corporate social performance (Business Horizons, Vol. 34 No. 4, World Business Council for Sustainable Development 1991) pp. 66-73

- //economictimes.indiatimes.com/articleshow/64855339.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst
- //economictimes.indiatimes.com/articleshow/66819949.cms?utm_source=contentofinterest&utm_medium=text&utm_campaign=cppst

Cost Benefit Analysis of Integrated Ticketing System in Mumbai Metropolitan Region with Special Reference to Suburban Railways

Sanjay Kumar
PHD Batch 2018
Jamnalal Bajaj Institute of
Management Studies Mumbai

Dr. C. R Chavan,
Professor
Jamnalal Bajaj Institute of
Management Studies Mumbai

ABSTRACT

Mumbai Metropolitan Region (MMR) with a population of more than 20 million, has the presence of five major modes of public transport – in operation and/or under development. These include suburban railway, bus, metro rail, mono rail and water ways, with estimated 10-11 million average daily public transport trips or about 75% - 80% share in total motorized daily trips. The commuter's difficulty in purchasing tickets from multiple Operators will further increase manifold once new, Mono Rail, Metro lines and water ways become operational

In the current public transport scenario, there is a diversity of ticketing system and mediums, transiting between multiple modes of public transport with multiple ticketing options is time consuming and challenging. With a growing population and economy, demand on the Mumbai's transport network is continuing to rise and with growth in IT and rising income levels, the expectations of public transport customers are changing as well. Integrated Ticketing System (ITS) provides a common ticketing media for the benefit for customers and operators. It provides convenience to customers, supports improved efficiency and cost savings for operators and provides a data analytics capability that can be used to improve both services and specific customer offers. The system will enhance commuter experience and convenience.

The numerous benefits to commuters will come at the cost of heavy investment by the Transport Operators in the form of expenditure in infrastructural changes to their buildings and structures, for introducing access control in the form of entry and exit barriers at the premises of the Transport Operators. In addition, there will be increase in the Hardware Cost, Software Cost and Operation and Maintenance Cost.

This paper attempts to analyse the Cost and the Benefit of the ITS project to find out whether the benefits outweigh the cost involved.

KEY WORDS

Integrated Ticketing System (ITS), Mumbai Metropolitan Region (MMR), Public Transport Operators (PTOs), Urban Metropolitan Transport Authority (UMTA), Europay MasterCard Visa(EMV) Card, Special Purpose Vehicle (SPV), Automatic Ticket Vending Machine (ATVM), Open Loop Smart Cards, National Common Mobility Card (NCMC), NFC technology and Contactless Payment Cards, Ticket Inspection Devices (TIDs), Know Your Customer (KYC), Automatic Fare Collection (AFC), Scheme Operator (SO), Tap in Tap Out, First Rider Risk.

INTRODUCTION

Mumbai Metropolitan Region (MMR) has presence of five major modes of public transport – in operation and/or under development. These include suburban railway, bus, metro rail and mono rail, with estimated 10-11 million average daily public transport trips or about 75% - 80% share in total motorized daily trips.

Currently, the Suburban Railway carrying more than 8 million passengers (3.9 million for Central Railways and 3.5 million for Western Railways) and BEST carrying 3.5 million passengers per day are main people movers in the city. Upon implementation of these Metro Corridors and Monorail the accessibility to mass transit systems will significantly improve and will create a scenario where commuters can rapidly travel to most parts of the city using a combination of multiple modes of public transport.

To ensure a high public transport patronage it is vital that seamless physical and ticketing connectivity be provided between all public transport modes in MMR. In the current public transport scenario in MMR there is a diversity of ticketing system and mediums, transiting between multiple modes of public transport is time consuming and challenging.

With a growing population and economy, demand on the Mumbai's transport network is continuing to rise and with growth in information technology and rising income levels, the expectations of public transport customers are changing as well. They expect better service quality, lower transaction times and on-demand services which are becoming the new norms of modern living. ITS offers potential benefits for customers and operators. It provides convenience to customers supports improved efficiency for operators and provides a data source that can be used to improve both services and specific customer offers. Integrated Ticketing System (ITS) will provide a common platform for ticketing and fare collections to simplify and enhance commuter experience and convenience.

A. <u>Theoretical Framework</u>: Introduction of ITS for the Metro System is not very difficult as these will be mainly green field however for Indian railways introducing the ITS system will be a huge challenge considering the requirement of providing "Access Control" to ensure only authorized entry and exit from the Railway premises. Fencing and crowd segregation in the Railway area to ensure authorized entry and exit is a mammoth task which will involve huge expenditure and time. On the other hand, ITS results more benefits in the form of more comfortable travel experience by reducing/ eliminating ticket purchase time and also drastically reducing ticket less travelling due to better access control of Boarding and Embarking areas. The paper tries to find out whether introduction of ITS system will be beneficial to the society including Railways and the Commuters.

World over ITS is available in many Metropolitan Cities like London (OYSTER), Tokyo (SUICA), Hongkong (OCTOPUS), Seoul (MPASS), Melbourne (MYKI), Chicago (Ventra card) etc. The names indicated in the bracket are the names given by the Metropolitan cities to their ITS card. In London for example, Transport for London (TfL) is the body which manages the smart card Integrated System for Tube, Buses, Waterways etc and the ITS e Card used by the Commuters is called "OYESTER".

In this paper an attempt has been made to find out the cost benefit analysis of a Integrated Ticketing System with reference to Mumbai Suburban system. The cost of the project will be taken as the estimate prepared by Railways for the Project while the benefit will be taken by quantifying the savings in time for commuters which is spent in buying Tickets standing in queues. Savings will also accrue to the Railways in reduction in ticket less travelling due to restrictive access (access control) in the Station area. Also benefit to Railways will be in saving of manpower released from ticket selling and ticket checking and release of costly commercial space which is at present used for ticket vending.

B. <u>LITERATURE REVIEW</u>: Ministry of Urban Development, Government of India came out with a policy for development of a Cashless fare mechanism system which will work across all Public transport modes such as Rail, Metro, Buses etc. This was done as part of the National Urban Transport Policy (NUTP) 2006. Establishment of an Interoperable Fare Management System (IFSM) was envisaged as a part of the Policy. For this purpose, a payment instrument in the form of a National Common Mobility (NCMC) Card was suggested as this will enable commuters to use multiple modes of transport in multiple cities across multiple states to use only one fare media which could a Smart card, Mobile

phone or any other media. A committee was nominated under Additional Secretary Ministry of Urban Development to give recommendations for standardisation of NCMC (National Common Mobility Card) The committee inter alia recommended the following in 2014-15:

- Develop and publish NCMC standards & specifications around the EMV open loop card with stored value.

- Engage an indigenous domestic payment card network for developing specifications of AFC system, Cards, Readers, Payment Networks, Software Security and any other device/entity which may become part of the eco system like mobile phones etc. and payment protocols.

- Create certification mechanism for AFC system, Cards, Readers, Payment Networks, Software Security and any other device/entity which may become part of the eco system like mobile phones etc.

- Explore use of KMRL (Kochi Metro Rail Limited) model as a business model for PTOs

- Initiate the work on designing the metro gates/validations by C-DAC indigenously to minimize the dependency on international players.

- Dedicate the standards and specifications to the Nation.

- Align the system with other Government initiatives such as Make in India, Design in India, Pradhan Mantri Jan Dhan Yojana and Aadhaar based KYC.

- Enable 'Off-Us' transactions in the transit echo system. The fee/ charges applicable in such a case of 'Off-Us' transactions in transit should be determined by PTO in consultation with the Card scheme and FIs in compliance with RBI guidelines, if any, and adequate measures should be put in place to ensure no undue burden is put on to the commuters' and

- Initiate regional implementation at first, with local transit operators within the region like BMTC, BMRCL, KMRCL etc. In due course, these will get integrated at national level to ensure single common card (i.e. NCMC) acceptance across all PTOs, other transit modes, retail networks and e-commerce. (Off-Us transaction means transactions in which the card issuing Bank is different than the Ticketing System Operator Bank)

To implement the One Nation One Card Policy for introducing ITS Smart card initially in Mumbai, Mumbai Metropolitan Region Development Authority (MMRDA) is currently acting as the central agency and have engaged the consortium of Price water house Coopers Private

Limited (PwC) and Hyperion Systems Ltd (Consult Hyperion, UK) for consultancy services to Update of Specifications and Technical Assistance for Integrated Ticketing System Project in MMR. A Steering Committee comprising of all Public Transport Operators (PTOs) in Mumbai including representation from Railways (MRVC, Western and Central Railways) have come together to jointly support this study of ITS in Mumbai Metropolitan Region and with their continuous support, a common service platform is planned to be developed for meeting current and future requirements for all modes of transport in Mumbai.

The Urban Metropolitan Transport Authority (UMTA) is providing the oversight for the project. It has representations from Urban Development Department (Government of Maharashtra), MMRDA, Brihan Mumbai Electric Supply and Transport Undertaking (BEST), Central Railway (CR), Western Railway (WR), Mumbai Rail Vikas Corporation (MRVC), Mumbai Metro One Private Limited (MMOPL), Mumbai Metro Rail Corporation (MMRC), City and Industrial Development Corporation (CIDCO) Navi Mumbai Metro and others.

The Concept Plan sets out the basis of ITS in Mumbai including its technical, institutional and commercial aspects. This report sets out the key requirements for Railways to participate in the ITS scheme and an approval is requested from Railway Board for the implementation of the approved Concept Plan.

The Railway Board vide its letter no. Adv./Transf./Strategic Initiative/FC/2017 dated **June 09, 2017** have identified *development of Open Loop (for transit & generic purpose) Smart Cards with outsourced fare collection* as one of the most important strategic initiatives.

MRVC has been made the nodal agency to coordinate between Railways in Mumbai and the state agencies for planning, implementation and execution of the system.

C. **<u>RESEARCH METHOD</u>**: The research is mix of Quantitative and Qualitative. The various Costs, Benefits and Challenges were accessed from Secondary sources i.e. Policies of Govt of India, Reports of MMRDA, MRVC, MMRDA Consultants and World Bank. The cost and financial benefit of the project was assessed from MRVC as the focus of the project is on Suburban Railways. For working out the benefits like saving in time for commuters, manpower cost has been worked from Minimum Wages prescribed by Government. Wherever data was not available, suitable conservative assumptions have been made.

D. **<u>Data Analysis and Result:</u>** Based on various write-ups available on Government of India, MMRDA and MRVC sites the following advantages of ITS has been ascertained:

a. ***ITS would provide key planning data for authorities to improve services*** - The data captured from the transaction is providing insight into individual travel patterns and is giving operators the potential to tailor their service for discrete groups of customers, thus increasing ridership and improving service utilization.

b. ***Operators can reduce operations cost as efficiency savings are realized -*** For public transport operators, the immediate advantage in moving to smart is in the potential to reduce costs – fewer ticket printing machines and fewer mechanical breakdowns of ticket readers, for example. Later, savings will also come from completely eliminating some of the older style ticket formats. Big benefits also come from the insight that smart ticketing can give operators into their passengers' travel patterns. Smart ticketing facilitates the adoption of new pricing mechanisms – such as shoulder pricing where there is a mid-price between peak and off-peak travel periods – to better cope with demand.

c. ***Moving ahead with times requires being ready for adopting latest and upcoming technologies*** - Payment systems globally is going through substantial changes. Use of mobile phones though NFC technology and Contactless Payment Cards are showing fast adoption rates globally. As these technologies get introduced in India, customers in Mumbai will be at forefront of adopting these technologies. ITS system for Mumbai needs to leverage latest technology developments and provide the latest services that the customers in Mumbai expect.

d. The system will free up substantial manpower presently being used for booking tickets.   These can be utilised elsewhere. Also, the space released by the vacating the booking counters can be commercially exploited

e. ***Challenges in Railways:*** In Railways the two biggest challenges are that providing access control through gates will be extremely difficult for Railways for this purpose the implementation in Railways is planned in two phases**.** In the first phase, only tap in device will be provided at each Station. The Commuters will tap the destination zone to which they are travelling which will be recorded on the smart card. This information can be checked by a Travelling Ticket examiner (TTE) who will be provided with a Hand-Held Device. The second issue is that of First Ride Risk in which if an Account based system is used, then even if the balance on the card is low, the commuter may be permitted to perform a few journeys free without

sufficient balance on the card. This can be eliminated by having a provision for minimum balance eon the card.

Cost and Benefit for Railways and Commuters

Device	Nos	Average cost per device (INR) (As advised by the consultant appointed for study for ITS project)	Remarks	Estimated Cost (INR Crore)
Tap-in Readers	1,400	1,30,000	~ 12 per station, basis device throughput and peak hour ridership	18.20
Ticket Vending Machines (TVMs)	250	25,00,000	~ 2-3 per station, basis device throughput and peak hour ridership	62.50
Ticket Office Machines (TOMs)	700	5,00,000	~ 6-7 per station, basis device throughput and peak hour ridership	35.00
Ticket Inspections Devices (TIDs)	600	50,000	1 per Ticket Inspector	3.00
Station Servers	114	6,00,000	1 per station	6.84
Station Servers (Redundancy)	114	2,40,000	1 per station	2.74
Backend Server	1	9,00,00,000	Common server	9.00
Backend Server (Redundancy)	1	3,50,00,000	Common server	3.50
Sub total				140.78
Installation, Testing & Commissioning	15% of sub total			**21.12**

Capex (AFC & Hardware)				161.89
Equity for proposed SPV				5.00
Final Total (including equity for SPV)				166.89

Table 7: Estimated requirement for AFC devices under Phase-1 implementation program for Railways (SOURCE: Mumbai Rail Vikas Corporation)

All values in Rs in Crore	Capex	Opex	Transaction* Cost	Total
FY 2018	161.89	-		161.89
FY 2019	-	8.91	17.00	25.91
FY 2020	-	6.91	24.00	30.91
FY 2021	-	6.91	31.00	37.91
FY 2022	-	6.91	38.54	45.45
FY 2023		6.91	38.66	45.57
FY 2024		6.91	46.00	52.91
FY 2025		6.91	47.00	53.91
TOTAL (Round off)	162	50	250	462

Table 8: Estimated requirement for Capex and Opex (SOURCE: Mumbai Rail Vikas Corporation)

*Taken as 25 paisa per transaction on an average. The number of transactions is taken on conservative basis

In the above, the total ridership for all modes in Mumbai Suburban has been taken as 10.8 million. Railways share in terms of PKM is 77% which has been taken as its share in the revenue of the SPV. The life of the Hardware is taken as 7 years after which Phase II with access control is expected to the total initial capital investment expected for the AFC devices, including network integration and implementation is estimated to be around Rs. 162 crores for Phase I. The operational expenditure expected for the first 7 years is estimated to be around Rs. 50 crores. Therefore, the overall expenditure for railways is estimated to be about Rs. 212 crores for first 7 years with phase-1 program. If we consider the transaction fee of approx. 25 paisa per transaction, and ridership penetration of about 25% to 65% from starting year of operation to next 5 subsequent years of operation, total cost (including Capex, Opex and transaction charges) comes out approx. 462 crores for first 7 years with phase-I program. In addition to this an equity amount of 5 Crore is also required towards formation of SPV. Therefore, the total cost to Railways for Phase I will be Rs 467 crore.

For commuters, the cost will be the refundable cost of the smart card which at present is pegged at Rs 50. Since this is a refundable deposit it is not taken as a Cost. Hence cost to consumers is taken as Nil.

For Railways, the royalty received may be enough to cover the ITS cost and the additional revenue can be shared among the PTOs. If the royalty received per card is similar to Nagpur the additional revenue potential for Railways can be as high as Rs 630 crores over 7 years period. The basis for Royalty and Other Revenue income has been based on Nagpur Metro as intimated by PWC. However, a more conservative approach to Nagpur Metro has been assumed as in Nagpur Metro, the supply, installation and maintenance of the system is with the Bank JV who is offering the royalty. Total ridership of Mumbai Metropolitan is 1.08 Crore while that of Nagpur is 3 lakhs. The royalty offer for Nagpur Metro is Rs 30 crore for 10 years. Extrapolating this figure, we get an amount of Rs 700Cr. To be further on the conservative side, an amount of 90% Of Rs 700 Crore i.e. Rs. 690 Cr has been shown as expected royalty.

The IRR for phase I of ITS has been tabulated below as 10%. The Capex and Opex are arrived on the basis of PwC report. For staff saving, it has been assumed by Railways that the total staff saving will be 540. However, to be on the conservative side only one third of the saving i.e. 180 has been considered. Staff salary has been assumed to be Rs 60000 pm for each booking

staff. Further a nominal saving of Rs. 2 crores are assumed on savings on Electricity, paper, Hardware etc. Savings on other staff benefits like medical, housing, Passes are not considered

For Commuters, for a season pass holder, it would mean a time saving of about 60 mins a year per pass holder in suburban rail network. N Mumbai suburban the total ridership of Season Ticket is around 180 crores annually. Considering each commuter undertakes two journeys, the number of ridership is around 90 crores annually. Also, each Suburban Monthly season ticket (Predominant form of Season ticket amongst Monthly, Quarterly and Annual) is taken as 50 journeys per month, the number of season ticket is 1.8 crore (90/50). If 25% migrate to ITS, this number would be 45 lakhs. Thus, the   would mean annual time savings of over 45 lakh man-hours. Taking Minimum wages of Rs 10000 per month as prevalent in Maharashtra, which converts to Rs 48 per hour (10000/26 days/8 hours) this is equivalent to an economic benefit of more than Rs around 21.6 Crore annually (45lakh man hours multiplies by Rs 48 per hour wages). The number of Single Journeys are around 82 Crore. Since single journey ticket is unidirectional normally, if 25% migrate to ITS, the savings in man hours would bed be (82X0.25X 5minutes/60) crore Hrs considering each ticketing experience takes 5minutes per commuter. This comes to 1.7 crore manhours. The savings in terms of money comes to around Rs 82 crore annually. The total savings would therefore be 82+21.6 = 103.6 crore annually.

IRR for Railways

		Total	Year-0	Year-1	Year-2	Year-3	Year-4	Year-5	Year-6	Year-7
Cost	**Capex**									
	AFC Hardware	162	167							

Opex + Network	50		9	7	7	7	7	7	7
Transaction fee	250		17	24	31	39	46	46	46
Total	**462**	**167**	**26**	**31**	**38**	**45**	**46**	**53**	**54**
	Total	**Year-0**	**Year-1**	**Year-2**	**Year-3**	**Year-4**	**Year-5**	**Year-6**	**Year-7**
Royalty for SPV	630		90	90	90	90	90	90	90
Other revenue of SPV	16		2	2	2	2	2	3	3
Opex for SPV	70		8	10	10	10	10	11	11
Revenue Share-PTOs	576		83	82	82	82	82	82	82
Ridership Share- Railways	-	89%	77%	66%	48%	47%	47%	46%	44%
Revenue Share- Railways		**-**	64	54	40	39	38	37	36
Staff Savings		**-**	15	21	27	32	38	39	39
Net Benefit		**-167**	**54**	**44**	**28**	**26**	**31**	**23**	**21**
IRR*	**10%**								

Table 9: Calculation of IRR (SOURCE: Mumbai Rail Vikas Corporation)

The Phase-2 implementation involves modifications in existing stations and/or redevelopment of stations. These will involve heavy additional costs for civil construction as well as AFC gates. For the provision of implementation of Gates, a separate study needs to be conducted by Railways during the implementation of phase-1.

CONCLUSION

Common Ticket for all modes of public transport will be immensely beneficial to both the Transport Operators and Commuters in terms of time saving, ease of travel, savings for the operators in the form of manpower and release of ticketing space, reduced ticketless travelling, better transport planning with availability of better data analytics etc. The benefits of the project far outweigh the cost for both the Railways and the commuters.

For Railways while introducing the Phase I of the programmer will be may be simple, the phase II will involve lot of challenges due to the requirement of major modification to station layout.

REFERENCES

(I) National Urban Transport Policy 2006

(II) Report on Committee for Recommendations on National Common Mobility Card

(III) Concept Note on NCMC implementation issued by NPCI

(IV) Railway Board letters on Smart Card issued in June 2017

(IV) Various Presentations by PwC to MMRDA and MRVC on ITS

(V) MMRDA's various letters on ITS including letter issued in June 2017.

Green Marketing: A step towards social innovation and environment conservation

Prateek Kumar
Asst. Professor , BBI department
Jai Hind College (Autonomous), Churchgate

Jaisal Singh Shergill
SYBBI
Jai Hind College, Churchgate

Soham Thakker
TYBFM
Jai Hind College, Churchgate

Abstract

In today's cut throat competitive market, marketers resort to numerous tactics to grab the consumers attention, some of those tactics are often unethical , but there are some companies big and small who have adopted the concept of green product and green marketing as a step in social innovation and are creating a huge impact in making the consumers aware of the dangers to environment and how can each and every person can contribute to make this earth a much better place to live.

INTRODUCTION

The study focuses on the concept of green marketing as tool for social change in creating awareness of the importance of environmentally friendly products and services. The study also throws light on the cases of various companies nationally and internationally, who are trying to bring in a change by adopting "green" measures and communicating it very well to the masses.

This study also focuses on the various challenges faced with respect to green marketing and green products, the efforts that go behind it and how manufacturers manage the cost with scope of a profit

The study also includes primary data analysis on Indian consumers and their perception towards green marketing and green products.

OBJECTIVES OF THE STUDY

The study has the following objectives

- To understand the concept of green marketing as tool of social change

- To find out the acceptability of green products and the feasibility of green marketing
- To understand how green marketing impacts consumer buying behaviour
- To find out consumer perception relating to environmental concerns

RESEARCH METHODOLOGY

Keeping the Objective of the Research in the Focal Point, under Primary data we have Chosen Survey Method to address and throw light upon the consumer perception relating to green marketing and green products.

Sources like websites , newspaper articles , magazine articles have also been used as a part of secondary data for the study .

Environmental concerns such as global warming , pollution and other related environmental hazards have been present since a very long time irrespective of any geographical zone , but off late , thanks to the growing awareness and the political discourse especially related to global warming and climate change , the need for consumers to become environmentally conscious has seen a very high considerable growth .

Consumers especially in the south Asian sub continent are now more open to , what a lot of experts term as " green product " or in layman's language ; environmentally friendly products.

Environment is now a huge concern for everyone and effects each and every segment of the society in some or the other way.

An Article dated June 30 , 2016 in India today states the following shocking facts about the environmental condition in India :

 Air Pollution

India has been one the worst hit countries affected by the peril of Air pollution. A study from the International Energy Agency (IEA) states that there will be about 9 lakh premature deaths in India by the year 2040 due to the increasing air pollution in the country. Air pollution is also affecting like expectancies which are likely to go down by 15 months .India ranks 11th out of 20 of the most polluted cities in the world. India also ranks 141 in terms of air pollution out of 180 countries

Groundwater Depletion

India's groundwater level has been depleting at an alarming rate, which also causes a great impact on food security and livelihood. The Access to groundwater in the country has become increasingly difficult over the years. According to various reports the continuous exploitation of groundwater for various purposes has results in a 6% point fall in the ground level water. Other contributing factors include low rainfall and frequent draughts and has impacted the north western and south western regions the most , these regions are also responsible for most of the country's agricultural production and food crisis

Climate Change

Climate Change is every developing countries worst nightmare. Phalodi , a village in Rajasthan recorded 51 degrees Celsius temperature in May 2016 . The increasing hot temperatures are worrisome and a clear indication of the ill effects of climate change . The rapid melting of glaciers , increased floods , forest fires , earthquakes are a clear indication of what's in store for the coming years

Use of Plastics

The use of plastic products in India is vast and in-discriminatory. a lot of business's depend on the plastic industry so heavily that they fail to acknowledge its wide spread ill effects to the environment. The severity of the issue is highly underrated, as plastics are one of the least biodegradable materials. An average plastic beverage bottle could take up to 500 years to decompose naturally.

Garbage Disposal and Sanitation

One of the major issues that developing countries deal with is garbage disposal and sanitation. Garbage Disposal and Sanitation remains India's biggest challenge. Over 72 percent of India's rural population defecate in the open due to lack of toilets. Lack of safe garbage disposal has resulted a serious issue of frequent smog in Northern Parts of the country; worst hit by this is surprisingly the rural regions of the country. This is one of the areas where the country's government and people need to work hard and improve the prevailing conditions.

Loss of Bio Diversity

India is facing a massive crisis pertaining to loss of biodiversity, thanks to the continuous rapid industrialization , deforestation and lack of proper waste management, there are two major reasons to this , firstly the ever growing rapid population , which forces major changes in the physical environment and Secondly the lack of awareness about environmental issues and Conservation . Over the years the government has made a lot efforts to educated the masses but so far all the efforts have gone in vain

This is where Green Marketing comes into the picture, green marketing means the process of selling products or services with their environmental friendly nature being as the focal point. But green marketing involves a lot of participation from each stakeholders such as the consumers, corporate and the corporate. Green marketing in India deals with a few constraints as well such as finances , awareness , limited scientific knowledge lack of regulations and competitive pressures .Green marketing involves developing and promoting products and Services that satisfy your customer wants and needs for quality, performance, affordable pricing and convenience without having a detrimental impact on the environment

The Four P's of Green Marketing

The traditional 4 P's of marketing will differ a bit in terms of green products or environmental friendly products and so will the marketing strategy of such products

Product

Here the company will develop products which can boast of being environmentally friendly i.e products which meet the consumer needs , products which are better than the competitors but also benefit the environment directly or indirectly . Products which are made of recycled raw materials are a very good example for this.

Price

Price plays a major role for any product or service; no matter how environmental friendly the product might be , if the price of the product is too high , especially when we talk about the south avian subcontinent , the product will not be accepted at a wide scale , also Most customers will only be prepared to pay a premium if there is a perception of additional product value.

Place

No matter how much a green product is promoted, people will still be reluctant to buy it, the distribution channel must focus on the target customers , For this, In-store promotions and visually appealing displays or using recycled materials to emphasize the environmental and other benefits.

Promotion

Promotion plays a major role to create a positive perception about green products in the minds of customers. The promotion strategy for such products needs to be focussed on their benefit towards environment with a lot of visual appeal

SBI

State Bank of India, one of the biggest public sector banks in the country undertook a massive initiative of reducing carbon footprints in terms of the Automated Teller Machines. SBI has 10,000 ATMs across the country, the highest in terms of ATMs by any Indian Bank. Owing to the massive power scarcity in India which averaged to just eight hour on an average day. SBI realised the urgent need to save power through their ATM channels.

The move was highly appreciated and lauded. SBI in all its new ATMs installed LCD monitors instead of the more power consuming CRTs. LEDs replaced the existing tube lights and CFLS , 5 star EER 3.1 rated ACs were installed. ATM locations were specially chosen which had good natural lighting and did not require 24X7 air conditioning. Special Solar powered ATMs were installed in rural areas to compensate the power outage. ATMs were built closer to high population density area and workplaces, so as to reduce their travel time thus saving time and fuel

SBI is projected to conserve a massive 48508500 KWH per annum of power which monetarily converts to a hopping Rs. 24.25 crores worth energy savings per annum. Additionally it also provided a lot of benefits like the convenience of 24×7 banking, increased use of e-transactions. Most other banks in India are also realizing the benefits of adopting green practices.

IKEA

The Swedish furniture brand has created their own sustainable strategy called People & Planet Positive. IKEA's core belief as a company is that consumers shouldn't have to make a choice between stylish designs, affordable prices, and sustainability when purchasing their products.

The company uses its online content to encourage customers to live a more environmentally conscious lifestyle. And they lead by example with eco-friendly practices that include having solar panels in 90 percent of their buildings in the United States and cutting down on waste delivered to landfills.

IKEA has reaped many marketing rewards with their green efforts by embracing their underlying purpose in everything they do. As they demonstrate, if you're going to use purpose-driven content to your advantage as a brand, it's important to clearly show how you are actually embracing your purpose.

Kansai Nerolac

Kansai Nerolac Paint Ltd, one of the world's leading colour companies has always stayed committed towards its responsibility towards the environment and towards the welfare of the society as the part of their corporate social responsibility and has taken commendable steps in the areas of health, education, community development and environment preservation

Over the years Kansai Nerolac with a view of causing minimum harm to the environment , has strived towards removing heavy metals from the paints especially lead which causes grave effects to the environment

The company has in an environment friendly move removed heavy metals from the passenger cars products a decade ago. And further took it forward to their decorative range towards lead free products. The company has also done away with lead in its manufacturing process. However, lead contamination still persists in other ingredients like solvents and thinners, but is significantly lower than limits and better in terms of health and safety norms.

Wipro Infotech,

Wipro Ltd. The Indian multi giant of the IT sector, few years back announced its range of new eco-friendly Wipro Greenware desktops, the desktops are manufactured without toxic products and chemicals like polyvinyl chloride (PVC) and Brominated flame retardants (BFRs)

This new line of 'green' computers are Based on the Intel® Core™ 2 Duo processor and free from any carcinogenic materials which have the potential to harm the environment. This ensures that the recycling of electronic products is safer by reducing exposure of poisonous chemicals to the environment. The launch of such a product is a very big step in Wipro's policy of clean production and recycling. The process itself is quite challenging, as it took two years

to develop such a product with the absence of no known alternative technology of production. As it is very difficult to substitute a product like PVC which is a core component in PC manufacturing , nevertheless the R& D team at Wipro worked hard to find an alternate to this.

Even with the given constraints Wipro managed to find an eco friendly alternative which includes superior performance, minimum design impact, product reliability and meeting the current flammability rating. Wipro also ensured that all components of the alternative eco friendly material are in accordance to the standards set by the Institute for Interconnecting and Packaging Electronic Circuits norms.

DATA ANALYSIS AND INTERPRETATION

The primary data study was based on samples between the age groups of 18 to 40 + years of age , males and females from various walks of life , namely students , services sector ,business sector and homemakers , following chart depicts the trend in sampling of the study

Age-group	Male			Female				Total
	Business	Service	Student	Business	Service	Student	Home-maker	
18-25	8	8	56	2	7	55	0	136
26-40	6	18	0	5	25	0	3	57
40+	2	2	0	0	1	0	2	7
Total	16	28	56	7	33	55	4	N=200

The respondents were asked various questions, which help throw light on various objectives of the study;

Environmental Consciousness

The respondents were asked if they consider themselves as being Environmentally Conscious

160 respondents (80 %) agreed that they are environmentally conscious while 40 respondents said they weren't environmentally conscious

Environement Consciousness
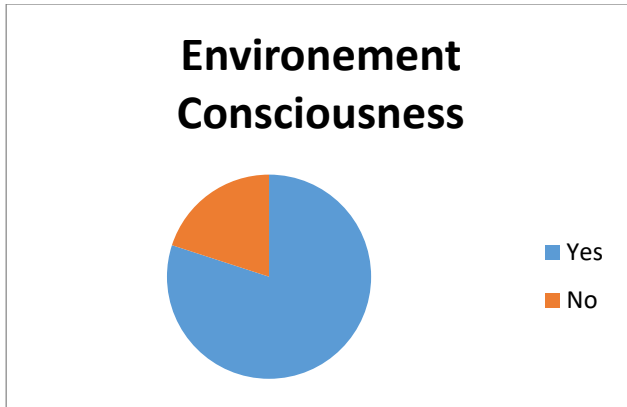
Premium Pricing

It's common knowledge that green products are priced higher than the regular products; hence we asked the respondents if they will be willing to pay more for buying a more environmental friendly product ; The response was surprising as 62% respondents were not willing to pay a higher price for a more environment friendly product.

willing to pay more price for a greener product?

Impact on buying behaviour

The respondents were asked if at any point of time a products environment friendly nature has ever affected their purchase decision. The survey showed only 32% of the respondents buying decision have been based on the environmental friendly nature of the product

have you ever purchased a produt just beacuse it is environment friendly?

Green Products and its effect on environment

The respondents were asked of their opinion as to do they think green products actually help in environment conservation?

A whopping 92% of the respondents agreed that that opting for environmentally conscious products and can being a positive change in the environment

does opting for green products benefit the environment ?
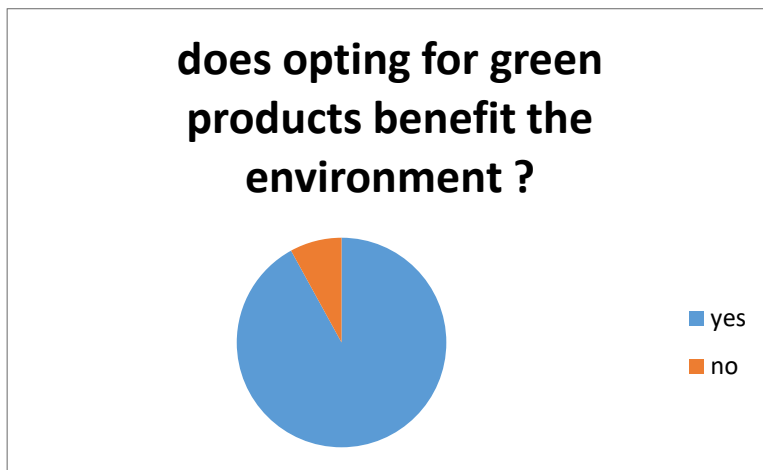
Green Products and concerns

The last question for the respondents was their concerns relating to green marketing and green products , the respondents were given various factors to choose from ; the study showed ; 72 % of respondents believe high prices are a major concern with green products , 15% believed that quality of the products might be an issue , while 7% respondents had

lack of trust on authenticity of the product being environmentally friendly and 6% believed that there is still lack of awareness regarding green products in India
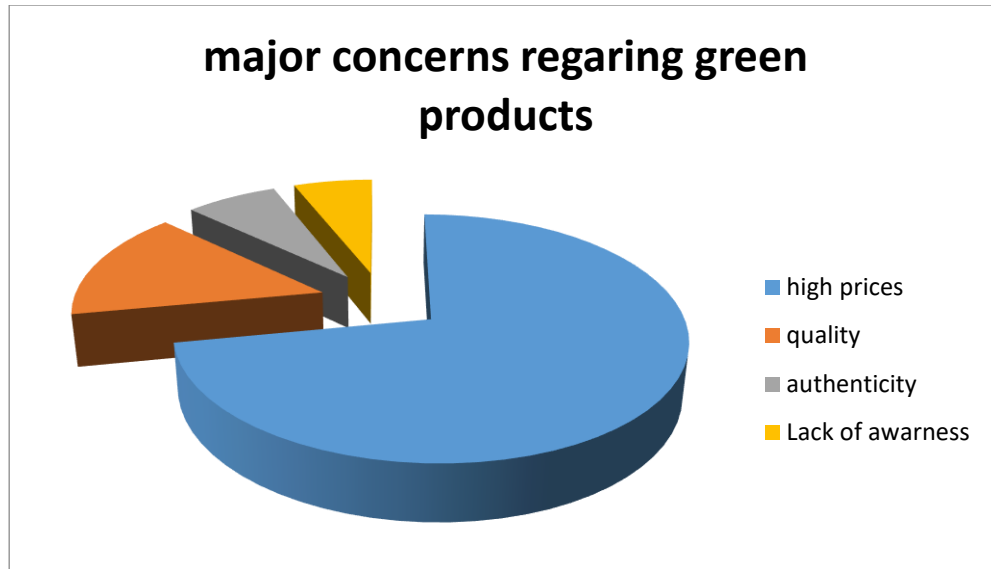
HYPOTHESIS TESTING

Hypothesis: There are no differences of opinions about authenticity as a biggest concern w.r.t. green marketing .

			concerns			
			authenticity	Price	Awareness	total
	yes	176	92	12	72	176
	no	27	19	3	5	27
Green marketing	total	203	111	15	77	203

Green marketing	concerns		
	authenticity	Price	Awareness
yes	96.23	13	66.75
no	14.76	2	10.24
total	110.99	15	76.99

O	E	(O-E)^2/E
92	96.23	0.1859389
12	13	0.07692308
72	66.75	0.41292135
27	14.76	10.1502439
19	2	144.5
3	10.24	5.11890625
5	76.99	67.3147175

$\chi^2 = \sum (O-E)*2/E = 227.759651$

Degrees of freedom= (2-1)(3-1)=2

χ^2 (0.05, 2) = 5.991 (Table Value) , χ^2 (0.01, 2) = 9.210 (Table Value)

χ^2(calculated) > χ^2 (0.05, 2)

Hence, the **hypothesis is rejected,** There are differences of opinions about authenticity as a biggest concern w.r.t. green marketing .

CONCLUSIONS AND RECOMMENDATIONS

Following conclusions can be drawn from the study:

- Green marketing concept is still a new and less popular concept in India
- Price is still one of the major concerns for such products
- People are not willing to pay a premium price for such products
- Consumer perception about green marketing and green products is quite positive

Following recommendations can be suggested with the help of the study:

- Producers need to find a certain way as to justify high prices for greener products especially in a country like India where price is still the most important factor of purchase decisions

- Marketers need to play a very important role in terms of making consumers aware about the benefits of green products

- Marketers also need to advertise and promote such products quite aggressively especially to the urban environmentally conscious millennial age bracket

- Green marketing should not be considered as just one more approach to marketing, but has to be pursued with much greater vigor, as it has an environmental and social dimension to it.

- With the threat of global warming looming large, it is extremely important that green marketing becomes the norm rather than an exception or just a fad.

- Though numerous green products do contribute majorly towards a "greener" environment, our survey shows that people are easily ready to pay a higher price for a green, environment friendly product. With this in mind, one must not rule out the capitalistic nature of corporate that often comes in the way of conserving a community that is free from exploitation of consumers

Changing the Family Vacation Dynamic: Sharing Economy in Tourism

Bharti Godbole
Research Scholar
JDBIMS, SNDT Women's University

ABSTRACT

Modern day lifestyles and busy work schedules put a premium on family vacations; a much needed break from the routine, a stressbuster and an opportunity to rejuvenate and bond. An enjoyable family vacation is one which suits the needs of all the family members and matching these diverse vacation needs across age groups is a challenge, which the hospitality industry faces, and tries to come up with innovative vacation solutions to satisfy such needs. Families today stress on immersive experiences and theme based tourism which gives them a chance to experience the local culture and also connect with the local community. Ecotourism is a rapidly emerging trend in family vacations. Growth of sharing economy in tourism is changing the entire family vacation dynamic, creating a push for sustainability by sharing a home that is already available, building a home-stay ecosystem, creating micro entrepreneurs, using shared means of transport and moving away from the typical tourist itinerary to an immersive journey.

This theoretical paper aims to understand the concept of sharing economy in the hospitality industry, with reference to Airbnb in accommodation sharing; the changes in family vacation dynamic due to the growth of the same, to highlight the shift in travel preference from the typical, 'been there, done that' to an immersive and experimental one and the related challenges. The family segment which is studied is the 'family with teenagers'. An understanding of the same will help the sharing economy players and hospitality entrepreneurs to create innovative and customised tourism products and services and effective implementation of marketing strategies to capture the family travel segment.

Key Words: Sharing economy, family vacation dynamic, ecotourism, sustainability

INTRODUCTION

The family structure in the Indian context has undergone a big change with the emergence of dual income nuclear families, many with a single child. The children become the pivot and the time deprived parents ensure that their demands are met. The family purchase decisions often revolve around the child and as the child's age increases, his or her role gets dominant in the decision making. According to John(1999),as children get older, they gain a stronger position in persuasion and negotiation .Kaur & Singh(2006) reported that children constitute three different markets: primary, influencer and the future market. The study found that there are some products where children wield direct influence or pester power by overtly specifying their preferences and voicing them aloud, while for other products, parents' buying patterns are affected by prior knowledge of the tastes and preferences of their children.

The term 'teenager' is defined as an individual between 13-19 years of age(Merriam Webster dictionary)Study by John(1999)reported that in this phase the cognitive and social development becomes a major determinant of consumerist behaviour in children.

In these times of competitive pressures, urban Indian families are placing a premium on leisure activities as these are considered to play an important role in family bonding and interaction. A vacation is defined as a period of time that a person spends away from home, school or business, usually in order to relax or travel (Merriam Webster Dictionary).With an increasing number of families having working women with demanding careers, families are increasing the frequency of vacations and also opting for short breaks to spend quality time, relax and rejuvenate. Kaur & Medury (2010) reported that teenagers influence vacation sub decisions of where to go, how much time to spend, where to stay and when to go. According to the work of Foxman,Tansuhaj & Ekstrom(1989), in 60 percent of families, adolescents have an influence on travel and vacation decisions. Kaplan (1974) suggested that leisure, individuals and family units can't be understood separately and that a person's leisure is inextricably affected by the family. An enjoyable family vacation can happen when all the members have the same idea of 'enjoyment' and 'fun'. In families with teenagers, it might be challenging for the parents to get them involved in the vacation decision making process and then further come to a consensus of the destination and the activities at the destination, the accommodation choice and the mode of transport. If the teenagers are not happy with the vacation choices, then the family vacation purpose of relaxation, fun and bonding is lost. Tourism marketers understand the importance of the 'families with teenagers' as a market segment and implement strategies ranging from

destination marketing which revolves around the activities /adventure sports and uniqueness of the destination, hospitality marketing which focuses on keeping the teenagers engaged at the hotel/resort, uninterrupted Wi-Fi, to cruise marketing and special events and experiential marketing, focussing on culture, heritage, music or food. With the growth of sharing economy in tourism, families have a choice of renting accommodation at an affordable price, with larger space ,better amenities than hotels and most important of all, living like the locals. Availability of sharing economy has changed the dynamic of family vacation decision making as it has emerged as a strong contender in terms of taking accommodation decisions. The role of the younger members of the family in taking accommodation decisions needs to be explored and understood as it will go a long way in planning and implementing focussed strategies.

METHODOLOGY

This is a theoretical paper based on literature review and other published data.

LITERATURE REVIEW

Travel decision making

According to Philip Kotler (1998), the typical buying process involves five stages the consumer passes through- need/problem recognition, information search, evaluation of alternatives, purchase decision, post purchase decisions.

Hoyer & MacInnis(2007) reported that decision making for a vacation begins when the travel need is realised and ends after the final evaluation of the vacation stage. Hyde(2004) stated that the decision making for vacations is complex, as the decisions are made not only before travel, but also during the vacation.

The decision to travel has been recognised as multi-phased, rather than a single step process. Clawson & Knetch (1966) identified a five phased process in their recreational behavioural model - Anticipation: planning and thinking about the trip. Travel to the site: getting to the destination. On-site behaviour: behaviour at the destination. Return travel: travelling home. Recollection: recall, reflection and memory of the trip.

Morison(2010) suggested that the decision making process in hospitality and tourism comprises of six stages, namely-need recognition, search for information, pre-purchase evaluation of alternatives, purchase, consumption and post consumption evaluation.

According to Woodside & Macdonald (1994), vacation decision making is different from most other decision making processes because vacation decision making relates to a composite product. Accordingly, vacation decision making not only relates to choice of destination, but also to choice of accommodation, mode of transportation, activities, sightseeing, food etc. Some of these decisions are made up-front, whereas others are mostly made at the destination. Moore(2012) identified four dimensions of tourist decision making- flexibility, location and timing of the trip, social composition and stage of the trip. According to Mondia(2010) certain factors that influence tourist decision making can be highlighted as-trip distance, environment of the place, entertainment options, culture and history of the place, activities for children, knowledge of local language and good accommodation facilities. Sarma(2014) reported that the factors considered by tourists while selecting a destination includes transportation access to the destination, and within the destination, availability and price suitability of accommodation, cost of transportation, infrastructure, tourist attractions, local people, recommendations of tour operators, weather conditions and availability of time.

According to Swarbrooke & Horner(2007) travel decisions can be influenced by internal and external factors. Personal motivators, disposable income, health, family commitments, lifestyle, attitude were reported as most important internal factors which influence tourist decision making process.

Family vacation decision making and teenagers

People spend most of their leisure time with family. Khoo-Lattimore (2016;Carr,2006) reported that family is the most important social structure for experiencing vacations. Xiaoxiao,Lehto & Park(2014) found that vacation, as a leisure form requires greater inputs of time, money and effort, as compared to other leisure activities and families expect a unique experience in return for these inputs. Studies by Peter & Olson(1994) reported that while on a family vacation, pleasing the child is an important motive for the parents.

Thornton et al (1997) found vacation planning to be a group activity based on family decision making with the consent of children. It was reported that young teenagers are more cohesive in family decision making. Studies by Sharp & Mott (1956) and Cunningham & Green (1974) reported that vacation decision making generally results from joint decision making.

Jenkins (1979) correlated family life cycle variables with perceived children's influence and concluded that children in families which are in the later stages of the family life cycle have

more influence in vacation decision making. Older children, especially teenagers were perceived to have the most influence in deciding upon the kinds of activities for the family to participate on the vacation. Niemczyk (2015) reported that adolescents participate and have some influence on the final decisions regarding domestic vacations, but no participation on final decisions regarding foreign vacations.

Jenkins (1979) stated that 20 to 35 percent of parents reported strong influence of their children in the choice of destination, accommodation, activities and timing of the vacation. Studies by Swinyard & Sim (1987) also highlighted the influence of children on vacation decisions concerning selection of destination, actual date of vacation and activities to be engaged in, at the vacation destination. Crompton (1981) stated that children had a substantial influence on vacation destination decisions directly or indirectly. The direct influence is exercised through persistent requests from the children, while the indirect influence is exercised when parents make the vacation decisions with children's interests in mind.

Belch et al (1985) and Flurry (2007) suggested that the decision to purchase vacation time is one that involves a high level of joint family involvement. Children and adolescents perceive this to be an expenditure from which they will benefit, thus increasing their influence in this purchase decision. Foxman, Tansuhaj & Ekstrom (1989) reported that in sixty percent of families, adolescents have an influence on travel and vacation decision. Studies by Belch et al (1985) and Ahuja & Stinson (1993) found that children have been observed to influence decisions for family leisure time activities such as holidays/vacations.

Family Communication Environment

Studies by Moschis(1979) reported that family communication environment sets the context for parent-child communication about consumption and consumer learning. It comprises of two uncorrelated dimensions of communication structure. According to Mcleod & Chaffe 1972)

the first one, socio orientation refers to the type of communication that produces social deference and fosters harmonious and pleasant social relationship at home. The second one, concept orientation reflects the type of communication that encourages children to develop their own views about events and issues in the world. According to Foxman,Tansuhaj & Ekstrom(1989b) concept oriented communication environment enhances children's influence, because parents in these families encourage children to develop concept related decisions.

Emergence of the 'sharing economy' in tourism

Mcbride(2016) reported that when the vast opportunities of online businesses became a possibility, the sharing economy was incorporated and came to flourish due to the ease of sharing goods and services across the globe. The online sharing economy maximises the value of time and convenience by enabling asset holders to share their property online at a time which suits them, while also delivering a profit to the asset holder. Businesses that facilitate this connection, flourish due to the cost of their online business being lower than it would be normally be offline.

Growth of companies' like-'Airbnb' in accommodation and 'Uber' in transportation has introduced the dynamic of 'shared economy' in travel decisions. Airbnb gives an option to the tourists to stay with a local host and get to experience the life in that city or country, at different price points. It describes itself as a peer to peer online market place and homestay network that allows people to list or rent short term lodging in residential properties. The cost of accommodation varies, but it is always set by the property owner. There are more than 2,000,000 listings in 34000 cities and 191 countries .According to Gebbia(2016) Airbnb is predicated on a trust system, allowing strangers to connect by providing hosts an online service to share their homes through a broker platform delivering profit to both Airbnb and the hosts. Beer(2010) reported that the key factors to success of Airbnb are the unique appeal of belonging to a community and 'feel at home' approach. Mcbride(2016) reported that another key factor is the push for sustainability. By sharing a home that is already available, guests would not be contributing to urban expansion, depletion of resources and unnecessary production of greenhouse emissions

In the Indian context, Airbnb has tied up with Maharashtra Tourism Development Corporation to take the unique experiences and some of the less explored but high potential destinations in the state to a larger audience. The aim is to build a 'home stay' ecosystem and create 50,000

micro entrepreneurs in the hospitality sector in the next 5 years.72 experiences which have been categorised as 'Mahabhraman' will be marketed.

Airbnb has also tied up with the department of tourism of Andhra Pradesh Government to promote the art, culture, and craft heritage of the state to a global audience. Airbnb India travel trends survey report released on 27th September 2018 (Source: Airbnb Pressroom-Airbnb.com) highlights the changing preferences and styles of Indian travellers. The key travel trends reported by the survey are: social media influence while booking an accommodation, need to be connected at all times, luxurious accommodation with all day pool access, multigenerational travel and an emphasis on sustainability as majority of respondents actively sought eco-friendly features in the accommodation.

Changing family structures and role of children in decision making

An increase in small dual income nuclear families has changed the dynamics of family vacation decisions, with the children emerging as the focal point of decisions and sub decisions related to travel, in terms of the time and duration of the vacation, the choice of the destination, the activities at the destination, the accommodation and transport decisions and the post vacation evaluation. The net savvy teenagers gather information from online sources and social media. Lindstrom(2004) reported that the informed children have more influence and personal power. According to Ayadi & Bree,2010) they are active participants in family decisions and assert their rights and desires. According to Wang,Holloway,Beatty & Hill(2007)the adolescents exert more power at all stages of decision making. (Serido & Barber,2011;Flurry,2007) reported that changing family structures increase the responsibility on the children. Palan (2001)reported that children use a range of strategies like asking or telling parents about products, persuasion, reasoning and pestering to present purchase request to parents. According to Isler,Popper & Wood(1987) parents' willingness to buy the requested product was to reward the children. The authors also reported that appropriateness of the product was a factor which encouraged the parents to respond favourably to the requests of children for the purchase.

Experiential family holidays

According to Prentice et al(1998),the core product of tourism are the experiences gained .According to Tung & Ritchie(2011) a travel experience can be defined as an individual's

subjective evaluation and undergoing of events related to his tourist activities that begins before, during and after the trip. McCabe & Foster(2006) reported that when tourists travel to different places and interact with people from different cultural backgrounds, they bring back memories, which become embedded with the total of lived experiences. Otto & Ritchie(1996) found that the important factors influencing the 'experience' for tourists are- hedonic, peace of mind, involvement and recognition. Pine & Gilmore(1998)classified experiences into four realms, on the basis of two parameters of 'absorption' and 'immersion'. These realms are – education, entertainment, escapist and aesthetic. The 'entertainment' realm involves absorption rather than 'immersion.' Activities in the 'educational' realm involve activities by the participant, but are still of an absorption nature, rather than 'immersion'. Escapist activities involve both active participation and immersion in the activities environment. Activities like bungee jumping, water sports, golfing, volunteering activities, which attempt to create new identities .Aesthetic activities involve tourists immersing themselves in the experience, but with little active participation in the experience. According to Petkins(2002) the 'entertainment' realm involves sensing, 'educational' realm involves learning, 'escapist' realm involves doing ,and the 'aesthetic' realm involves 'being there'. The authors concluded that the richness of an experience is a function of the degree to which all four realms are incorporated. Based on the work of Haugen & Erffmeyer(2004) and Hedin,Bannes & Chen(2005),a few attributes to define experiential tourism can be listed as-pre departure trip planning ,post trip follow up and memories, local culture, history and nature and a complete participatory experience that provides new knowledge and experience. Schanzel(2015) and Shaw(2008)reported that for families, the holiday experiences centre on spending time 'with' the family, doing fun activities that are different to normal and which create positive memories. According to Blichfeldt(2007) the propensity for overseas holidays generally increases with the age of the children, as families with older children seek more exotic or grander experiences. Travel companies are realising the importance of customising travel experiences for families with children and teenagers. For example- TUI India's Mauritius Tamasa Beach Resort Package ensures that families with varied interests have something to look forward to. For the children, the package includes access to unlimited water sports and outdoor activities. The parents can enjoy meals at top end restaurants or watch local shows, also a part of the package. Ecotourism, culinary tourism, adventure tourism, cruising, thematic and cultural tourism are emerging as popular forms of tourism for families with teenagers.

Air bnb launched the 'trips' service in 2017,with the tagline 'experiences, places and homes'. This service is built upon the four steps in creating an experience, as suggested by Pine and Gilmore(1998): theme-living like a local; harmonize impressions with positive cues, eliminate negative cues, and mix in memorabilia.

Social Media Influences

Teenagers are social media savvy and like to post travel pictures on their social media accounts, write online reviews and blogs of the vacation experience, thereby generating an electronic word of mouth and also content, related to their travel experience. 'Status updates' and uploading vacation videos is a favourite online activity of the tech-savvy teenager. According to a study by White(2010) travel related photographs generate an interest in friends and peers, further affecting their travel plans. Murphy(2010) reported that the majority of young tourists interviewed shared content about the trip on social media after coming back from the trip. The social media is also used as a source of information aiding in travel decision making. Social media 'influencers' also impact the decision making related to travel as their online reviews and blogs are followed by the teenagers. The role of social media as a source of travel information was investigated by Xiang & Gretzel(2010).Litvin(2008) reported that tourists use social media to find out more information about the journey as they focus on the 'experiential' nature of the travel.

CONCLUSION

 The growth of sharing economy players like Airbnb in tourism has surely changed the family vacation dynamic as the family members become more willing to try out an accommodation option which is different from the usual hotel fare, and also gives the family an opportunity to live like locals and get an immersive experience. The influence of the teenager in the family vacation decision making in the modern day context goes just beyond 'pester power' as the teenagers are well informed about different vacation choices

.

Managerial Implications and Future Research

Families with teenagers are an important market segment for travel and hospitality companies. Understanding the family vacation decision dynamics will help in framing strategies targeting this segment. Companies can focus on the role of the teenagers in different stages of vacation decision making to further influence the parents in making family vacation decisions. Sharing economy players in the tourism industry and the hosts listed on these sites can customise their offerings to target the teenager for the family to have a memorable vacation experience. Destination marketing and positioning can also be implemented effectively by analysing the influence of teenagers in family vacation decisions. In the Indian context, religious tourism is an important segment which can be explored by the sharing economy players.

The key challenges for the sharing economy players relate to the social and safety issues. In many cities Airbnb has faced a backlash by the local population due to the nuisance of the tourists staying in its rented accommodation. Safety is also a major concern, especially for the family tourists, as there is an element of risk associated with staying in a stranger's home. Online reviews and user generated content is a way to reduce this aspect of risk. The broader dimension of safety associated with the destination country or city is related with the general tourism infrastructure and safety parameters, and the perceptions associated with the destination and its people. Strategies by sharing economy players can focus on the risk mitigation aspect and create memorable vacation experiences for the 'families with teenagers segment'.

REFERENCES

Ahuja, R & Stinson, K (1993).Female-headed single parent families: An exploratory study of children's influence in family decision making. *Advances in Consumer Research,* 20,469-474

Belch, G. E.; Belch, M & Ceresino, G (1985). Parental and teenage influences in family decision making. *Journal of Business Research*, 13, 163-176

Carlson & Grossbart (1988).Parental style and consumer socialization of children. *Journal of Consumer Research,* 15(1), 77-94

Decrop ,A(2005).Group processes in vacation decision making. *Journal of Travel and Tourism Marketing*, 18(3),23-36

Flurry, L. A (2007).Children's influence in family decision making. *Journal of Business Research*, 60(4), 322-330

Foxman,E;Tansuhaj,P &Ekstrom,K(1989)Family member's perceptions of adolescents influence in family decision making. *Journal of Consumer Research,*15,482-491

Hyde,K.F.(2004).A duality in vacation decision making. *Tourism Analysis,*8(2),183-186

Jenkins,R.L.(1979).The influence of children in family decision making: parents' perceptions. *Advances in Consumer Research,*6,413-418

John, D.R (1999).Consumer Socialization of children: A retrospective look at twenty five years of research. *Journal of Consumer Research,* 26,183-213

Kaur & Medury(2011).Impact of the internet on teenager influence on family purchases. *Young Consumer,*12(1),27-38

Kaur & Singh(2006). Children in family purchase decision making in india and the west: a review. *Academy of Marketing Science Review,*8,1-32

Khoo-Lattimore,C,Prayag,G&Cheah,B.L.(2016)Kids on board: exploring the choice process and vacation needs of asian parents with young children in resort hotels. *Journal of Hospitality Marketing and Management.*1-31

Kotler,P(1998).Principles of marketing. New Jersey: Pearson Education

Lee,T.H.&Crompton,J.L.(1992).Measuring novelty seeking in tourism. *Annals of Tourism Research,*19,732-751

Moore,K,Smallman,C,Wilson,J & Simmons,D(2012).Dynamic in destination decision making:an adjustment model. *Tourism Management,*635-645

Moschis,G.P.&Moore,R.L.(1979).Family communication influences on the development of consumer behaviour: some additional findings. *Advances in Consumer Research,*13,365-369

Nickerson,N & Jurowski(2001).The influence of children on vacation travel patterns. *Journal of Vacation Marketing,*7(1),19-30

Nuraeni,S;Arun,A.P.& Novani,S(2015).Understanding consumer decision making in tourism sector: conjoint analysis.*Procedia-Social and Behavioural Sciences,*16(9),312-317

Prentice, R; Witt, S.F. & Hamer, C (1998).Tourism as an experience: the case of heritage parks. *Annals of Tourism Research,* 25(1), 1-24

Shoham,Aviv & Dalakas,Vassilis(2006).How our adolescent children influence us as parents to yield to their purchase requests. *Journal of Consumer Marketing,*344-352

Swarbrooke,J.&Horner,S(2007).Consumer behaviour in tourism. United Kingdom:Butterworth-Hienemann

Thornton,P.R,Shaw,G & Williams,A.M.(1997)Tourist group holiday decision making and behaviour: the influence of children. *Tourism Management*, 18(5),287-297

Ward & Wackman(1974).Consumer socialization: initial study results. *Advances in Consumer Research,* 122-125

Woodside & Macdonald(1994).General system framework of customer choice processes of tourism services. *Thaur:Kultur Verlag*

Xiaoxiao,F,Lehto,X & Park, O(2014).What does vacation do to our family. Contrasting the perspectives of parents and children. *Journal of Travel and Tourism Marketing*, 31(4), 461-475