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- **Marketing Management**
- **Human Resource Management**
- **General Management**
- **Financial Management**
- **IT and Operations Management**

SECRETARY’S MESSAGE

Education plays such a rudimentary role on our society that we cannot even imagine a life without it. However in the new , management education has implicit and explicit responsibilities to further the cause of economic enrichment . While doing so, maintaining high values of Corporate citizenship.

This International Conference “A confluence of Trends & Technologies Reshaping Global Business” ,is organized for Academicians, Corporate, Thinkers, Research Scholars and Students. The businesses of the world have an impact on not just Economies but Real people. The reality is that with the Globe shrinking and resources becoming more accessible, there lies scope for enhancing quality of life in a more secular fashion.

It is truly fulfilling to make these attempts, to make a difference to Business in particular & to Society in general. Our efforts stem out of our Philosophy of Social consciousness- the essence of the Wadia Legacy.

- Prof. D. A. Rajput

Secretary,

Modern Education Society, Pune.

RECTOR'S MESSAGE

Education forms the very essence of our actions. Therefore educational institutes have responsibilities that go way beyond conventional boundaries and expectations. We have always and fully recognised that and taken steps to be the change.

The melting of barriers between nations and their increasing interconnectedness, accelerated by technology, has led to a change in the world order. This has had a profound impact on global business – the strategies based on expanded opportunities and those for leaner cost structures.

The International conference on “A confluence of Trends & Technologies Reshaping Global Business” is an effort to integrate and meaningfully compile knowledge and creative thought for the benefit of Businesses across the Globe . This stems out of a realization that the domino effect cannot be ignored. In fact , although the connected fortunes of the Peoples of the world can pose some challenges , it also throws up a myriad opportunities. This should be seen in a positive light and be encouraged in various aspect of Governance in Business and in Political Spheres.

- Dr. (Mrs.) Girija Shankar

Rector,

NWIMSR & Asst. Secretary – Modern Education Society, Pune

DIRECTOR & CHIEF EDITOR'S MESSAGE

It gives me immense pleasure to state that Our International Conference on “A confluence of Trends & Technologies Reshaping Global Business”, brings together personalities, thinkers, professionals, academicians and scholars for constructive discussion on the subject.

The development in one country is bound to have an effect on the other. The ripple effect has spared none and this is becoming more rapid and intense. Our institute tries to work as a catalyst for progressive and profound thinking, to propel a change for an improved Business World considering the present realities.

I would like to take this opportunity to congratulate all participants whose articles have been published in our journal. I would also like to express my deep thanks to our all the speakers from corporate and from academics for adding value and grace to our Conference. Our partners University of Pune, have made this successful event possible. Immense thanks to them for their support.

- Dr. A. B. Dadas

Director & Chief Editor

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**MARKETING
MANAGEMENT**

NATURAL INTELLIGENCE, ARTIFICIAL INTELLIGENCE AND MARKETING : SUCCESS MANTRA FOR ORGANIZATIONS IN 21ST CENTURY

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Abstract

A transit from 20th century to 21st century has seen a dramatic shift in technology This gives birth for new requirements of market that is perfection, customization and speed . if you want to win the customer approach the customer fast, customize your product fast, deliver your product fast, and support your service fast. Customers throughout the world now a days wants fastest convenience, they are living the moment and most importantly they wants customized product and services. We have also noticed a dramatic shift in the behavior of Indian customers breaking gender and professional stereotypes. To satisfy these unique needs and wants traditional approach of marketing has to be modified to mass customization. Innovation in technology, digitization, analytics and fast adoption by everyone are creating performance and productive opportunities for the business and economy. The world has become global village. People all over the world are closer together. These global netizens has access to technology to make unique choices like never before. Marketers need to predict these discrete and discerning customers' needs to win the race. Natural Intelligence along with Artificial intelligence, Machine learning, Big data, analytics and content would definitely Be prove as success mantra for organizations in 21st century.

Keywords : *Natural Intelligence, Artificial Intelligence, Big data, Marketing, 21st century*

Introduction

18th, 19th and 20th century was dominated by Natural Intelligence single handedly. we have A transit from 20th century to 21st century has seen a dramatic shift in technology. on the one side we have seen railways, air travel, automobiles, telephone, television to evolve, develop and been adopted by mass market in the span of 150 years, on another side we are witnessing the era of internet, social media, messaging etc are evolved, developed and adopted by the roots of the economy in merely 15 to 20 years. Isn't dramatic? Isn't it magical? Yes It is. This speed of Evolving, developing and adoption of new technology is so fast in every aspect of Macro and micro economy. This gives birth for new requirements of market that is perfection, customization and speed. If you want to win the customer approach the customer fast, customize your product fast, deliver your product fast, and support your service fast. One thing should be remembered accuracy or perfection in doing all these is of also vital importance. It's a huge, huge, huge task but with the help of Artificial intelligence, big data and content,

marketers can win the race. Natural intelligence and Artificial Intelligence jointly can prove miraculous in 21st century.

Fast changing world, fast changing India and Fast changing customers

Customers throughout the world now a days wants fastest convenience, they are living the moment and most importantly they wants customized product and services. We have also noticed a dramatic shift in the behavior of Indian customers breaking gender and professional stereotypes. To satisfy these unique needs and wants traditional approach of marketing has to be modified to mass customization .Innovation in technology, digitization , analytics and fast adoption by everyone are creating performance and productive opportunities for the business and economy.

Artificial Intelligence

Artificial intelligence is intelligence exhibited by machines, rather than humans or other animals (*natural intelligence, NI*). Colloquially, the term "artificial intelligence" is applied when a machine mimics "cognitive" functions that humans associate with other human minds, such as "learning" and "problem solving".

The scope of AI is disputed: as machines become increasingly capable, tasks considered as requiring "intelligence" are often removed from the definition, a phenomenon known as the AI effect, leading to the quip "AI is whatever hasn't been done yet." For instance, optical character recognition is frequently excluded from "artificial intelligence", having become a routine technology.

Capabilities generally classified as AI, as of 2017, include successfully understanding human speech, competing at a high level in strategic game systems (such as chess and Go), autonomous cars, intelligent routing in content delivery networks, military simulations, and interpreting complex data.

Advancements in artificial intelligence, robotics and machine learning are pushing the boundry of the possibilities for the business. Artificial intelligence has reached to different level with progress in algorithms like deep learning, reinforcement learning using neural network. There is tremendous increase in capacity of computing which facilitates us to process complex business models.

With the help of this we can now easily codify the approach of the best and get world class expertise and experience repeated every time. Cognitive agents can now parse natural language and independently determine the customer needs and ask questions to diagnose problems and act accordingly.

Natural intelligence (NI)

Natural intelligence (NI) is the opposite of artificial intelligence: it is all the systems of control that are not artefacts, but rather are present in biology. Normally when we think of NI we think about how animal or human brains function, but there is more to natural intelligence than neuroscience. Nature also demonstrates non-neural control in plants and protozoa, as well as distributed intelligence in colony species like ants, hyenas and humans. Our behavior co-evolves with the rest of our bodies, and in response to our changing environment. Understanding natural intelligence requires understanding all of these influences on behavior, and their interactions . Natural Intelligence can be used in context of Information, Knowledge, skills, Insight, Foresight and wisdom levels of

Human being to work Hand in hand with Artificial Intelligence to research, create deliver marketing products and messages to customers .

Big data

Big data is a term for data sets that are so large or complex that traditional data processing application software is inadequate to deal with them. Big data challenges include capturing data, data storage, data analysis, search, sharing, transfer, visualization, querying, updating and information privacy

Lately, the term "big data" tends to refer to the use of predictive analytics, user behavior analytics, or certain other advanced data analytics methods that extract value from data, and seldom to a particular size of data set. "There is little doubt that the quantities of data now available are indeed large, but that's not the most relevant characteristic of this new data ecosystem." Analysis of data sets can find new correlations to "spot business trends, prevent diseases, combat crime and so on." Scientists, business executives, practitioners of medicine, advertising and governments alike regularly meet difficulties with large data-sets in areas including Internet search, urban informatics, and business informatics. Scientists encounter limitations in e-Science work, including meteorology, genomics, connectomics, complex physics simulations, biology and environmental research.

Data sets grow rapidly - in part because they are increasingly gathered by cheap and numerous information-sensing Internet of things devices such as mobile devices, aerial (remote sensing), software logs, cameras, microphones, radio-frequency identification (RFID) readers and wireless sensor networks. The world's technological per-capita capacity to store information has roughly doubled every 40 months since the 1980s; as of 2012, every day 2.5 exabytes (2.5×10^{18}) of data are generated.

Big data is not just big data, it is about decision making. Technology has enabled us to acquire massive amount of data, bring it from disparate sources into one platform and de-average them into segments to helping efficient and effective targeting.

Content

In traditional marketing approach communication message is created for a whole population Marketers used to design communication for the mean or the modal population and used to ignore the outliers. But market is changing customer is changing, customers not only needs personalized product but also personalized message to be communicated. Now with the advent of proximity aware technology, marketers can design personalized advertisements

Mass customization

Today marketing is redefined due to fast changing customer requirements and availability of technology. It's not just marketing, its Marketing in a connected world now. Know your customer, select your customer, reach your customer and communicate your customer and serve your customer is possible now with the advent of Artificial intelligence, Big data and content marketing. This not only helps businesses to grab more customers but also facilitate customers to make purchase decision about making preferred choices.

Future trends

a) A shift from Classic Market research to always on conversation market research

A real time sentimental analysis of customers' requirements and behavior would help marketers to understand sentiments and spot trends of customers.

- b) Influencing behavior of customers: Facial and Image recognition technology can help marketers to understand consumption patterns of Out of Home media (OOH) and on shelf impact of merchandising with much greater precision.
- c) Redefining Innovation: With the help of Artificial intelligence, marketers can leverage on open innovations and digital simulations .Time required for design and, incubation can be reduced with increased speed to market innovations. This would enable to build prototypes with speed.
- d) Redefining Supply chain: Automated warehousing, robotics and guided vehicles will help marketers with accuracy of inventory, reduce loading and unloading time and ultimately enhance customer service levels.
- e) Customized assortments: Predictive analytics and artificial intelligence will help marketers to customize assortments for every store they serve.

How to win customers

A new era of behavioral as well as capability changes had directed marketers to use following strategies to win customers

- a) CRM : A shift from Transactional marketing to relationship marketing would prove instrumental in building consumers to people relationships
- b) Real, authentic and purposeful deal : Todays connected customers are looking for the real, authentic and purposeful deal.
- c) Predict Fast, satisfy fast: Just identifying and satisfying needs and wants of customer's is not enough, Marketers need to Predict them quickly, accurately and accordingly satisfy them.
- d) Reimagin and unlearn : unlearn many things from pasr business trends and experiences and learn radical changes to shape for the future with the help Artificial intelligence and analytics,

Conclusion.

The world has become global village. People all over the world are closer together. These global netizens has access to technology to make unique choices like never before. Marketers need to predict these discrete and discerning customers' needs to win the race. If you want to win the customer approach the customer fast, customize your product fast, deliver your product fast, and support your service fast. One thing should be remembered accuracy or perfection in doing all these is of also vital importance. With best combination of Natural Intelligence and Artificial Intelligence Organizations can not only create the best solution to customer problems but also communicate and deliver and satisfy customer's needs and wants globally. It's a huge, huge, huge task but with the help of Artificial intelligence, big data and content, marketers can win the race. Natural intelligence and Artificial Intelligence jointly can prove miraculous in 21st century. Natural Intelligence, Artificial intelligence, Machine learning, Bid data, analytics and content would definitely be a fortiori for winning the customers. Serve these needs inconspicuously, offer most personalized solutions as and when they require and most importantly as and where they want.

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TO CONSTRUCT AND VALIDATE THE ONLINE CONSUMER BUYING BEHAVIOR MODEL

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Abstract:

Purpose of the study is to construct and validate model of factors affecting online buying behavior of consumers. The study proposes a model of online buying behavior. Demographic factors are important in buying decisions of consumers but Model proves that convenience, awareness, attitude, experience, usage of internet facility are inter connected factors and has effect on the decision to buy or not to buy from the online sources.

A quantitative research method was used with convenient sampling of online buyers. Questionnaire was filled in physical form and also through online mode. SPSS and Amos were the two software used to analyze the data.

Keywords : *Online Consumer Behaviour, E-commerce, Digitalization,*

Introduction:

E-commerce and internet has changed the way of consumers to buy the products. There is large transformation seen in the way consumers buy the products. There is remarkable change in consumer buying from traditional methods (brick and mortar stores) to online buying through portals. High level of disposable income and changing life style are among few factors influencing online buying behavior. For some consumer online buying is daily activity and has mastered the skill of shopping through various portals/website but for other consumers it is a new experience or nothing attracts them to buy online. Security issues and privacy of personal information are the factors which online sellers need to take care and gain trust of the regular consumers. The convenience of buyers to buy from home without standing in queues and face heavy traffic in city makes success of online.

Literature Review :

Ronald E. Goldsmith et.al (2000), studied the attitude of consumers towards e-commerce, consumers who made online purchase and consumers who did not purchase. Results showed online buyers showed positive attitude towards online buying compared to non-buyers. Online buyers felt easy to place orders through internet.

Hairong Li et.al (1999), attempted to identify the factors that predicts consumer's online buying behavior in U.S. They proposed a model for consumers online buying behavior and found that education, convenience orientation, experience orientation, channel knowledge, perceived distribution utility and perceived accessibility are predictors of online buying status i.e frequent online buyer, occasional online buyer or non-online buyer.

Vilasini Jadhav et.al (2016) considered factors like low price, variety of products, time consciousness, Convenience, promotions and comparison. Exploratory research was used by conducting focused group discussions and Qualitative research methodology

Prachi Goyal et.al (2015) examined the issues faced by e-commerce industry and factors influencing consumer's buying decision among citizens of Jaipur, Delhi and Bangalore

Prashant Singh (2014) analyzed the users of flipkart.com (Lucknow city) mainly interested in buy online apparel- Like mens, womens and kids clothes, watches, home & kitchen appliances etc. and they dislike buy online perfumes & footwear etc

Prayatna Jain et.al (2016), studied various factors which influence the online buying, also helps to understand how the demographic variables, geographic locations and time frame affects the outcome of the study and lead to change in the trend of consumers' expectations.

Bhuvan Lamba et al (2014), found the influence of the internet is far reaching because the information can be quickly spread out anywhere and anytime with the help of internet. To draw up a marketing strategy effectively, marketing managers have to consider which type of strategy should be used in addition to making good use of word-of-mouth

Objectives :

1. The proposed study aims to understand and study various factors that affect consumer Online buying behavior.
2. To develop and validate the model for factors that affect consumer online buying behavior.

Research Methodology:

A quantitative research was conducted using convenient sampling method and information was collected through questionnaire. The questionnaire was distributed in physical form as well as through online forms. Data was collected from 374 individuals who has done online shopping in last 6 months before the date of survey. Working professionals, house wife's, working women and college students were included in the population.

Data Analysis:

The data analysis was carried out using SPSS 22and AMOS 22 version software. KMO statistics and Bartlett test of sphericity was carried out to verify the confidence level and the sampling adequacy before conducting the exploratory factor analysis. The measures suggested that the data is suitable for factor analysis and hence the same was carried out. The study used Varimax rotation, the most popular method when a study aims to simplify a factor structure.

Table: KMO and Bartlett's Test^a

| | | |
|--|--------------------|-------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | | 0.546 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 14480 |
| | df | 780 |
| | Sig. | .000 |

The Kaiser – Meyer – Olkin measure of sample adequacy is 0.546, indicating that the present data is suitable for principle component analysis (the minimum acceptable value is 0.5). Similarly the Bartlett's test of sphericity is highly significant (0.000) indicating sufficient correlation between variables.

1] Exploratory Factor Analysis:

The first solution of exploratory factor analysis with Varimax rotation in 25 iterations resulted into a model of 8 factors with 33 items converged into it. To make the factor size manageable for data analysis and to reduce the factors with single item, exploratory factors analysis was again conducted with the number of factors forced selected to 7, 6 and 5. Factor model with 5 factors was found to be the best with most of the items with similar construct loading on the same factor. This model with 5 factors explained 65.7715 (~66%) of total variance. Factors with factor loading less than 0.5 were not considered and were eliminated. Thus the final factor model had 20 factors retained with factor loading more than 0.5.

Examining the contents of these items, factor 1 was labeled as "Online Purchase". Factor 2 was labeled as "Awareness of online shopping". Factor 3 was labeled as "Convenience". Factor 4 was labeled as "Attitude towards online shopping". Factor 5 was labeled as "Prior Experience".

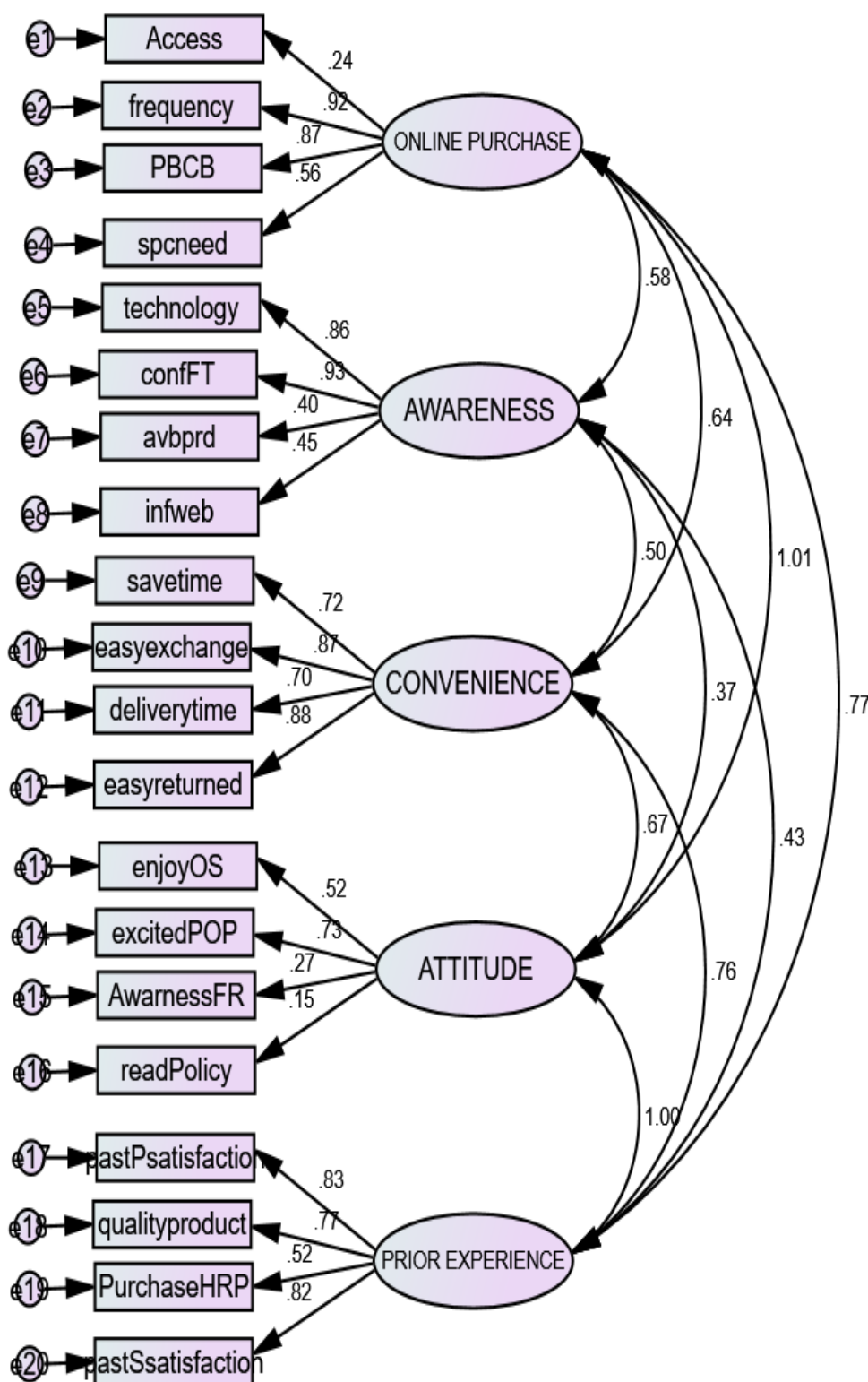
2] Confirmatory factor analysis for the proposed model of consumer buying behavior for pre owned car.

A factor model resulted was confirmed using Confirmatory factor analysis using AMOS 22 version. The model was tested for its reliability, validity and goodness of fit. Multiple indices of model fit viz. Goodness-of-Fit Index (GFI), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and a badness-of-fit index, Root Mean Square Error of Approximation (RMSEA) were used in the study.

The proposed model consisted of five constructs with twenty variables influencing online buying behavior. All latent constructs and its reflective indicators were depicted in a measurement model. Before calculating the estimate all latent constructs were allowed to correlate with each other.

Hypothesized model testing and analysis was conducted through three approaches. First, the proposed model analysis was conducted using covariance and most widely used maximum-likelihood estimation method. (Anderson and Gerbing 1988). Second based on Bollen (1990) recommendation, the present study examined multiple indices of model fit because a model may achieve good fit on a particular fit index but be inadequate on others. Third, the measurement scale was tested for reliability and validity.

Hypothesized model was subjected to the first order confirmatory factor analysis using AMOS 22. Fig. shows an identified factor model with five latent variables..



Assessment of Goodness of fit:

Based on Bollen (1990) recommendation, model fit for the present study was examined using multiple indices which include Goodness-of-Fit Index (GFI), Comparative Fit Index (CFI), Tucker-Lewis Index (TLI), and a badness-of-fit index, Root Mean Square Error of Approximation (RMSEA) (Hu and Bentler 1999).

As a common practice, acceptable model fit is indicated by value greater than .90 for GFI, CFI, TLI and a value of less than 0.08 for RMSEA. However, a cut-off value close to .95 for TLI, CFI; and a cut-off value close to .06 for RMSEA are needed to support that there is a relatively good fit between the hypothesized model and the observed data (Hu and Bentler 1999).

The measurement model incorporated five latent constructs indicated by respective items pertaining to scale. After the analysis, the CFA model revealed the values for various model fit indices as follows;

| Sr. No. | Parameter | Value |
|---------|---|---------|
| 1 | Chi-Square (χ^2) | 1131.49 |
| 2 | χ^2/df | 1.539 |
| 3 | Goodness-of-fit index (GFI) | 0.903 |
| 4 | Tucker-Lewis index (TLI) | 0.969 |
| 5 | Comparative fit index (CFI) | 0.972 |
| 6 | Root Mean Square Error of Approximation (RMSEA) | 0.032 |

The measurement model fit the data well. The chi-square value was expected to be significant due to large sample size. Instead, the Chi-square normalized by degrees of freedom (χ^2/df) was referred to. An acceptable ratio for χ^2/df value (1.539) was reported. The three fit indices for GFI, TLI, and CFI were substantially greater than .90 thresholds for acceptability. Lastly, RMSEA value also reported to be well below the cut-off value of .06. The above values indicates a good model fit based on the observed data.

Reliability test:

A multi-item scale was employed in this study; Chronbach's alpha estimate was used as a verification of the reliability of the composite items comprising each scale construct. The Cronbach's alpha value for all factors exceed the minimum standard for reliability of 0.70 as recommended by Nunnally (1978) for basic research. Thus, the results indicate that the scale is highly reliable and clears the test of reliability.

Validity testing:

The present study adopted Straub's (1989) measurement validation procedures to test construct validity in terms of convergent validity and discriminant validity.

Convergent validity:

Convergent validity was assessed by checking the loading of each observed indicators on their underlying latent construct (Anderson and Gerbing 1988). The CFA results include the standardized factor loadings as well as the item reliability. The CFA results indicated that each factor loadings of the reflective indicators were statistically significant at 0.001 level. In addition, the factor loadings ranged from 0.624 to 0.914 and no loading was less than the recommended level of 0.50. Next, the squared multiple correlations in the CFA model was examined. The squared multiple correlations of all constructs in the measurement model were higher than the acceptable level of 0.50 (Bollen 1990). This indicated that all of the latent constructs in the present study accounted for more than half of the explained variance in each indicator. The construct

reliability results displayed adequate reliability, in that the reliability of each construct exceeded the 0.7 threshold (Nunnally, 1978).

Discriminant validity :

As suggested by Fornell and Larcker (1981), discriminant validity was determined by the variance extracted value, namely whether or not it exceeds the inter-construct correlations associated with that construct. It was found that the variance extracted of each construct is all above its correlation with other constructs suggesting discriminant validity is established.

Findings :

In this paper, we tried to study various factors influencing online buying behavior in Indian market for various segments of population. This research helped us to understand the conceptual framework of consumers' behavior towards online shopping sites. With the help of above study, we can state that there are different elements which influences the buyer's state of mind towards web shopping options. The reliability and validity analysis confirmed the five factor model for influencing the online buying behavior.

Limitation of the study:

The study was restricted to Pune city only. However the population of the city exceeds 50 lakh and also due to good educational facilities and better employment opportunities, most of the people from different states in India have come and settled in Pune, producing a good mix of people from different culture, profession, income and educational background.

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EXPERIENTIAL MARKETING PRACTICES IN GOA – A CASE STUDY OF AN ECO RESORT

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ABSTRACT

In the modern times tourism and hospitality consumption has become more qualitative, more demanding, and more varied (Ritchie, Tung, & Ritchie, 2011). Goa has been one of the favourite destinations for both domestic and international tourists right from the late 60's with major emphasis on budget beach tourism. Besides beaches, Goa has forests, hills, backwaters, vast water bodies and rich Portuguese and Goan culture and heritage which have been tapped beautifully by the eco resorts at Goa. This paper discusses the experiential marketing practices at one eco resort at Goa which has its presence for over two decades in the eco tourism industry. It attributes its success to delivering a unique and complete holiday experience. An exploratory study was conducted covering a period from November 2016 to October 2017 which included domestic, international and local tourists, the owner, staff and local residents in the vicinity of the resort. The qualitative research included semi structured interviews, participant observation, discussions and secondary data analysis in the form of diaries, written accounts of past events of tourists. It was not a smooth journey for this resort especially with the new Supreme Court rulings in the eco tourism industry which put a tremendous strain and pressure on it. But fortunately the resort handled every issue and obstacle with care and wit. It has maintained its position as one of the top eco resorts in Goa due to the friendly nature of its staff, beautiful ambience and prompt action by the owner to continuously stage events and increase the attractiveness of the place.

Keywords: *experiential marketing, ecotourism, experience, eco resort, consumer experiences*

Introduction

Goa, a tiny state of India has been on the international tourism radar from the late sixties with the introduction of the hippy-trail. Endowed with beaches, forests, forts, churches, temples, and immersed with rich Portuguese culture and heritage, it is one of the favorite destinations for both domestic as well as international tourists. Goa has a coastline of about 105 kilometers and is well connected to the rest of the world via road, rail and air. But Goa suffers from the “paradox of plenty” and lacks outreach to its

full potential. Goa's image of sun, sand and sea coupled with parties, clubs and casinos attracts the young tourists with limited means and retired budget tourists (Kamat, 2010). The government of Goa has been working on various projects along with the private players to uplift the image of Goa and attract high end tourists who expect a memorable holiday experience as they attribute greater meaning to the word free time.

Goa has been losing out on destinations which publicize extraordinary experiences like Thailand, Singapore, Dubai, Hong Kong and China. They promote experiential activities in order to create value and maintain core capabilities in the tourism industry. This paper discusses the experiential marketing practices at one Eco Resort situated in Goa, which attributes its success to delivering a unique and complete holiday experience by building customer loyalty through the creation of total customer experience.

Ecotourism and Experiential Marketing

According to Hetzer (1965), the core principles of ecotourism are minimizing the environmental impact, respecting and minimizing the impact on local culture, maximizing the economic benefits for local residents, and maximizing tourist satisfaction. On one side there is a growing awareness and need the world over, to protect and safe guard the ecology and environment and on the other side there is a transformation of consumers who want brands to engage with them and add value to their lives, which has given rise to a new mode of tourism, which combines ecological conservation, environmental education, and cultural experiences. In today's world with our hectic life style, tourism is gaining more and more importance not only for a break from our everyday jog-trot life, but also for the conservancy and development of the countryside too.

In the era of experiential marketing, the focus is on customer experiences and lifestyles and not product performance (Holbrook, 2000; Desmet & Heekkert, 2007). Consumers look for pleasure, feelings and fun from products or service providers during their consumption (Holbrook and Hirschman, 1982 and Schmitt, 1999, 2003). Demand for experiences especially enhancing and managing experiences for their customers in order to gain a competitive advantage over other destinations is a major trend in the tourism industry, since tourists are no longer satisfied with traditional services. Companies engage various experiential marketing strategies and campaigns to outdo their counterparts and thereby develop loyalty by aggressively designing, continuously innovating, and managing their consumer experiences (Pullman & Gross, 2004).

Most of the countries are shifting their attention not only to sustainable ecotourism, but are focusing on increasing the competitiveness of ecotourism through experiential marketing. According to Lin (2007), the Tourism Bureau in Taiwan is promoting the ecotourism policies that focus on "local, ecological, and diversified tourism" so as to reduce the environmental impact of recreational activities, encourage local residents to participate, and conserve natural and cultural resources experientially. Several studies have been carried out covering ecotourism issues; Buckley (2009) studied the outcomes ecotourism has accomplished with regard to environmental issues, Jaafar & Maideen(2012), examined ecotourism-related products and activities and studied the economic sustainability of chalets on four Malaysian islands, Chaminuka et al (2012)

investigated the ecotourism potential of rural communities near the Kruger National Park in South Africa and Olson (2012) explored two unique ecotourism projects in the Sierra of Manantlán Biosphere Reserve in west central Mexico by using anthropological methods. Ceballos-Lascurain(1983) predicted that, conserving the northern Yucatan wetland, an American flamingo habitat would attract tourists for bird watching, thereby stimulating local economic activities and promoting ecotourism. Follows & Jobber, (2000) conducted a study assessing the attitudes and norms to predict environmentally friendly behaviour since ecologically oriented consumers are willing to pay a higher price, when they have the assurance that they are purchasing environmentally friendly products (Minton & Rose, 1997). According to a report in 2000 by the World Tourism Organization, understanding tourists' expectations and feelings, demands, and experiences and providing high-quality services that meet their expectations and needs is crucial to maintain the advantage ecotourism has on the tourism market (Parasuraman et al, 1988).

The reason behind the continuing growth in demand for experiential marketing is that it works for both brands and customers (Witthaus,2004).Therefore, understanding consumers' feelings, demands, and experiences, as well as the environment and ecology, is essential to enhance the competitive advantage of ecotourism industry.

Research Design and Methodology

Exploratory study is appropriate for exploring a relatively new topic area in order to provide descriptions in under investigated areas (Eisenhardt,1989; Gummesson,2000; and Yin,2008). Qualitative research methods are used to acquire a deeper understanding of the nature of consumer experiences in ecotourism industry and the factors or dimensions which lead them to be categorized as ordinary or extraordinary. There are a variety of methods of data collection in qualitative research, including observations, interviews, focus groups, textual or visual analysis, case study and secondary data (diaries, written accounts of past events). The Eco Resort under study has been operational for over two decade. An exploratory study was conducted covering a period from November 2016 to October 2017 which included domestic, international and local tourists; the owner, staff and local residents in the vicinity of the resort. The qualitative research included semi structured interviews, participant observation, discussions and secondary data analysis in the form of diaries, written accounts of past events of tourists in order to acquire a better understanding of consumer experience types and characteristics. In total there were 35 participants, namely the owner, 4 staff members, 27 tourists and 3 local residents. Purposive/Judgmental sampling method was adopted as it is effective when only limited numbers of people can serve as primary data sources. Purposeful sampling is a technique widely used in qualitative research for identifying and selecting individuals or groups of individuals that are especially knowledgeable about or experienced with a phenomenon of interest (Cresswell & Plano,2011; Patton,2002).

A Case Study of an Eco Resort at Goa

The journey of this Eco Resort has been a roller coaster ride with many hurdles which were tackled with care and wit. The new Supreme Court rulings in the eco tourism industry put a great strain and pressure on this resort. But thankfully the friendly nature

of the staff, beautiful ambience and prompt action by the owner to continuously stage events and increase the attractiveness of the place persuaded visitors not only to visit once but also to revisit and share experiences with friends and relatives.

Fig.1. Map of Goa



With prior experience of more than a decade in ecotourism, the owner set out on his mission to start a new project in the pristine forest at the entrance to the reserve Bhagwan Mahavir, very close to the famous Dudhsagar waterfalls. The property is spread over a vast expanse of land, adjacent to the river which adds a breath of freshness. The resort and its surrounding areas are blessed with immense, rare and unique flora and fauna which add color and life to the peaceful and tranquil habitat. The added attraction is the close proximity to the tribal settlements that dwell in the forests. The layout and eco cottages are designed with enough comfort and luxury, ensuring that it blends with its surroundings and nature. The eco resort attracts international, national and local tourists who come to experience a different Goa situated far away from the clutter and beaches. The experiential activities enriches tourist's lives by targeting their physical experiences, showing them alternative ways of doing things, alternative lifestyles and creating experiences related to the tourist's physical body, longer-term patterns of behavior, and lifestyles so that they can acquire social identity and belonging sense.

The success of ecotourism lies in the careful selection of recreation sites, nature loving cultivation and respect for local residents' life and culture which has been the mission of this resort which offers a diverse range of experiences to visitors (Rentschler, 2007) which might be visual, sensory, esthetic, recreational, educational, celebrating and enchanting (Kotler & Kotler, 2000). The following are some experiential activities at the resort.

1.1. Trekking :Escape into the wild

The smell of fresh air, lush greenery was beautiful, relaxing and engaging. Listening to the chirping of birds was music to the ears and watching the birds and animals eating, sleeping and playing in the natural habitat created a sense of respect for them. The treks and nature walks into the jungle to learn about the varied bio diversity stimulate interest and curiosity. Exploring the Dudhsagar, one of India's largest waterfalls through streams and pebbles of varied sizes and color was a memorable experience. The waterfalls wind their way across hills and provide ample opportunity to get soaked and drenched. The camp site consisting of eco cottages in a vast plantation with elephants located in the Sayadri hills sets the mood for fun, adventure and escapism. Events were staged to increase the attractiveness and potential of the place. The beautiful, relaxing & engaging camp site, trek and waterfall is a treat to ones senses while the long & thrilling nature walks, breathtaking waterfall & lively camp site make the tourists feel fresh & alive.

1.2. Custodian of Heritage and Culture

The resort takes pride as the custodian of heritage and culture and disseminator of knowledge of heritage and culture. Encountering primitive ways of living of the tribal people and simple lifestyles of the locals was a treat for the urban dwellers. The tourists touched base, especially the younger generation by learning about the skills, food habits, craftsmanship, and survival tactics of the tribal and local people. The locals took pride in interacting with the tourists and were very welcoming to them. The tourists got perception and information from sight, sound, scent, taste, and touch when they lost themselves to the natural beauty & habitat, learnt about the skills & lifestyles of the tribes and locals, got acquainted with the Goan & Portuguese cuisine, spices, techniques & processes. They felt a sense of identity & connection and get cheerful & knowledgeable which in turn attracted them to explore, join and participate in the various experiential activities staged especially for them.

1.3. Extraordinary experience with the elephants

The main attraction of this place is a large group of elephants who take part in a number of activities. The tourists could sit back and watch an entertaining elephant show or could participate in a long elephant safari ride or even take a bath with the elephant. They took pride in bathing the elephants and getting soaked themselves with a trumpet shower from the elephant. It did not end there, tourists could entertain themselves with the famous in house painters i.e. the elephants busy painting with huge brushes on canvas, which one could take home as a souvenir. The international tourists found this experience truly mesmerizing. But unfortunately now with the new rulings by the Supreme Court, using animals for entertainment is stopped. Personalized & surprise element creates positive & engaging memories resulting in emotional attachments.

1.4. Engaging Farm Activities & Adventurous Zip liner

The resort has its own farm which houses cows, pigs, goats, ducks, cats, dogs and varied ornamental, water and hanging plants. The resort engages fruitfully with

the tourists by concentrating on creative experience designs (Williams, 2006). Tourists can keep themselves busy by feeding the animals, taking the goat for a walk or just watching the attendant milking the cows. There is no scope for boredom. For the adventurous lot the zip liner which extends across the property surely brings thrills. The simple farm activities were engaging & exciting. The design & layout of the resort & farm amidst lush greenery enables the tourists to escape from everyday pressures & gets family & friends closer. Pleasure, enjoyment & satisfaction creates positive memories

“Takeaway” Impressions

The resort masterminds creation of experiences which are memorable by forging new relationships between tourists and the environment and between tourists with varied lifestyles and age groups. The stay at the eco resort is a holiday to remember, revisit and share experiences with colleagues, friends and relatives. The tourists felt and experienced differently and got associated with like minded people. The experiential events and activities excited their emotions and made them feel fresh and alive and revealed something about themselves. It brought them closer to nature and also to their friends and family. The friendly and helpful nature of the staff coupled with the breathtaking ambience at the resort encouraged bonding and friendly interactions.

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ADVERGAMES: AN EFFECTIVE MARKETING TOOL IN THE DIGITAL ERA

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Abstract:

As more and more consumers gather online for shopping, entertainment, research and other purposes, traditional marketing tactics such as banner ads are purposefully being side-stepped by the prospective clients. Advergaming, a powerful marketing tool, is increasingly becoming engaging and winning legitimate eyeballs - and for good reasons. Advergaming incorporates the advertising message, logo of company or other information about the brand with online games or video game. It has evolved as an acceptable and engaging platform which the consumers willingly appear attracted to with the rising social media presence. By integrating a game into social platforms it allows users to spread the games virally, through fixed as well as mobile devices.

According to a study carried out by the Interactive Software Federation of Europe (2012), one in four gamers uses a smartphone to play video games, and 83% of gamers play online using free apps or downloads. This has led to a change in the way content is consumed and distributed. There is now a wider range of video games available, the genres have evolved, the consumer profile has been transformed, and the age of gamers has increased.

Advergaming has attracted the attention of academician, researchers and industrialist but very few researches have yet been conducted in this field. The purpose of the current research is to investigate the significance of Advergaming as an effective interactive marketing tool.

Keywords: *Advergaming, advergaming, interactive marketing, effective advertising*

Introduction:

Advergaming, or branded games, as a marketing platform, has been around for many years. With the growth of gamers in Asia, four out of every five smartphone owners have played a game on their device, and 46% play games on a daily basis – this marketing tool has become a more creative and effective way to promote the brand. In the past, due to prohibitive development costs, only the largest global brands could afford to develop and roll out advergaming. This perhaps led to the stunted and disjointed progress of utilizing advergaming as a tool in rolling out new campaigns.

The growth and development of smartphones with internet connectivity means that many users are now employing free or low-cost downloads to access advertising content developed by various brands in the form of video games.

Video games have become one of the platforms most used by advertisers seeking new ways of getting their message across effectively, which is logical considering the efficiency rates reported by some studies. New advertising techniques experience a

greater acceptance among users—a public that is tired of the lack of originality of older methods and that demands greater personalization of messages.

Advergaming was coined in January 2000 by Anthony Giallourakis, and later stated by Wired's "Jargon Watch" in 2001. Presence of advergaming was since 1980 when Kool-Aid and Pepsi developed Atari 2600 games featuring their products and distributed the game cartridges as promotions. American Home Foods also had a video game that promoted Chef Boyardee that was distributed on floppy disk. In 1998, NVision Design (now Blockdot) construct company recognition campaign, through game named "Good Willie Hunting" and the game was a huge success and brought more attention to this new promotional method. Due to internet evolution, popularity of video game are unexpectedly becoming much more visible and in practice. In making pace with daily reality of life, this virtual world of gaming is gaining momentum.

An Advergaming offer services by establishing integration and interactivity (Dobrow, 2004). It is said that advergaming induce to educate consumers about the benefits, specialties and identity features of the products in general. An advergaming represents an exclusive form of branded entertainment as in advergaming the game incorporated as part of it main focus is to make the game medium to carry brand message (Deal, 2005). A game can create interaction and involvement with brands. A game is the technique to build brand on top of mind of consumers (Dahl, 2006). Most of research was conducted focusing American market and especially in food industry for children segment. But slowly it realized that now gaming is not limited to children only.

Importance and Effectiveness of Advergaming

A recent study on advergaming was done in the year 2012 designed by Territorial Creative on the Twenty social network for Open bank, the Santander Group's online bank. The game consisted in identifying elements belonging to English culture in the least amount of time possible from four categories: history and geography, sports, language and literature, and art and entertainment. Users were able to play in stages in any of the categories, had to face different levels of difficulty, improve their scores, and compete against their friends. The top 20 players won a year-long online English course ("Acción de advergaming," 2012).

The latest trends try to take advantage of social networks by using original games and designs. The internet has provided brands with a platform in which to develop custom games. For example, Unilever advertised Magnum ice cream via social networks. The campaign consisted of a simple game, Pleasure Hunt, integrated into the internet browser, which attracted sufficient attention and was entertaining enough to go viral. In the game, players had to control a young woman as she traveled through the internet while collecting chocolate sweets. Enormous exposure was achieved, and the game received traffic from 12 markets (Microsoft Advertising, 2013).

A study carried out by Media brix on the effectiveness of all advertising formats in video games found that these types of games achieve an average effectiveness rate of 20%, and social gamers claim to positively accept the advertising, especially if they receive something in exchange. These findings encourage brands to incorporate advergaming into their social media strategy ("La publicidad online," 2013). Méndiz

(2010), explains that as an advertising format, advergames provides advertisers with some very interesting advantages (pp.44-45):

1. **High brand exposure:** A motorway billboard, a magazine advertisement or a webpage pop-up barely manages to hold attention for one or two seconds and a TV spot for up to 30 seconds. A video game user can spend hours playing with a brand.
2. **Maximum user attention:** Advergames potentially offers advertisers direct brand interaction with the consumer. This contact can be produced in three different ways: associative, illustrative, and demonstrative.
3. **More appealing to the consumer:** The interactivity and elective involvement make them a more appealing form of advertising in comparison to banner or pop-up advertising. Games educate users about the brand in a much active way instead of passive learning used in advertising.
4. **Increased brand recall:** Full focused advergames helps to gain high brand recognition and recall of brands.

Myths related to advergames

- Only large, global brands can afford to develop an advergame
- My industry doesn't use games in its marketing"
- We need an App
- Advergames don't really generate leads

Conclusion

Advergames industry have wider scope in current scenario as videos gaming industry is on doom in India as a result companies have greater opportunity to place their brands in market as well as to spread brand awareness by implementing advergames technique. Primary objective of advergames should be amusement and gratification and secondary should be brand recall or sales in order to retain the interests of customers.

Digital marketing and expectations of users are constantly changing. Digital marketing spending averaged one quarter of total marketing budgets in 2016 hence marketers need to innovate and be on the lookout for solutions that will provide them with effective marketing and deeper engagement with their target consumers,.

In-game advertising and Advergames are forecast to reach over US\$2.67 billion by the year 2017. Advergames are set to grow in Asia which is a very strong market – with gaming accounting for 13% of total mobile ad spend. . This according to industry analysts is expected to only grow at an estimated 19% year- on-year in Asia. The effectiveness, the ubiquity of technology and the cost benefits make Advergames a very compelling proposition that marketers should consider.

Myths about Advergames can prevent marketers from exploring and working with a platform that can be very effective in promoting their brands. Advergames deliver significant cost savings and provide greater returns in terms of engagement and sharing. The future of advergames as an advertising tool looks promising, although it remains a terrain yet to be exploited, and rarely forms part of strategic planning in the case of most advertisers.

The key to success for advergaming lies in knowing how to make the most of technological trends while creating an experience that engages the gamer. There remains much to be done but research suggests that the conditions are ripe for advergaming to become an economically successful venture for advertisers and brands.

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MARKETING MIX FOR ECOMMERCE IN TODAY'S DIGITAL AGE

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Abstract

Marketing is a crucial aspect of any business and organizations across the globe spend substantial amount of efforts and cash in managing this function. There has been a phenomenal change in last decade in how organizations are doing business with respect to marketing and distribution of their products and services to the customers.

Traditionally, marketing departments of an organization would rely on conventional sources like television, newspaper, Radio, flyers and billboards to advertise their products. However in today's digital age, with the use of high speed internet, smart phones and advanced analytics, companies are relying heavily on tools like social media, blogs, website, mobile apps and search engines, to communicate and connect with their existing and prospective customers.

We are living in a century with a mix of people where, on one side we have tech savvy youngsters who like to shop and spend time on internet and on the other hand we have a significant chunk of masses who don't have access to internet or don't know how to use it. So for any organization, to choose between traditional marketing and digital marketing may be a tough decision to make. However looking at the trend of ecommerce growth, Internet penetration and ease of shopping on Internet, Digital Marketing is key to success for any organization. With this Paper we take an opportunity to analyze digital marketing with respect to "4P" of traditional marketing so that it provide inputs to choose a healthy mix of both the channels of marketing.

Key words

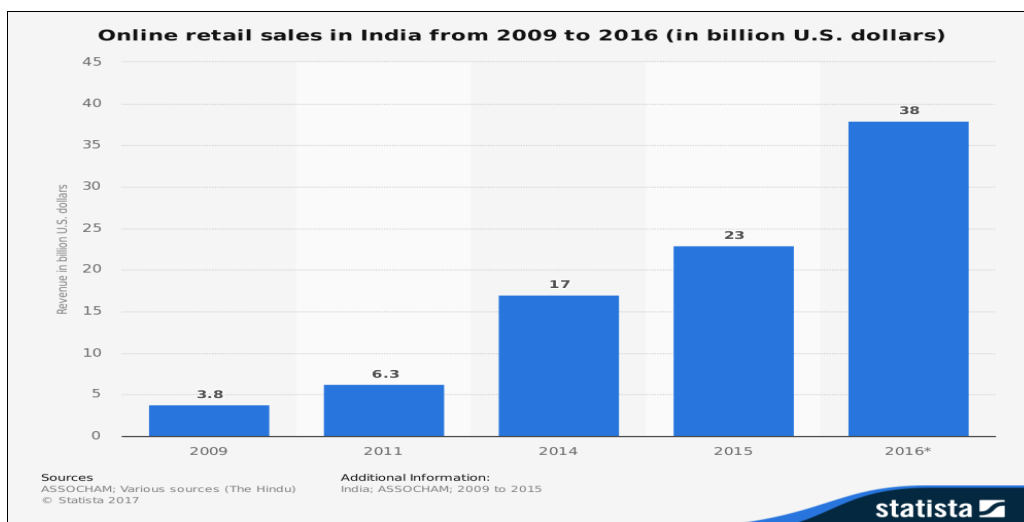
Traditional Marketing, Digital Marketing, Analytics, Search Engines, Social Media

Introduction:

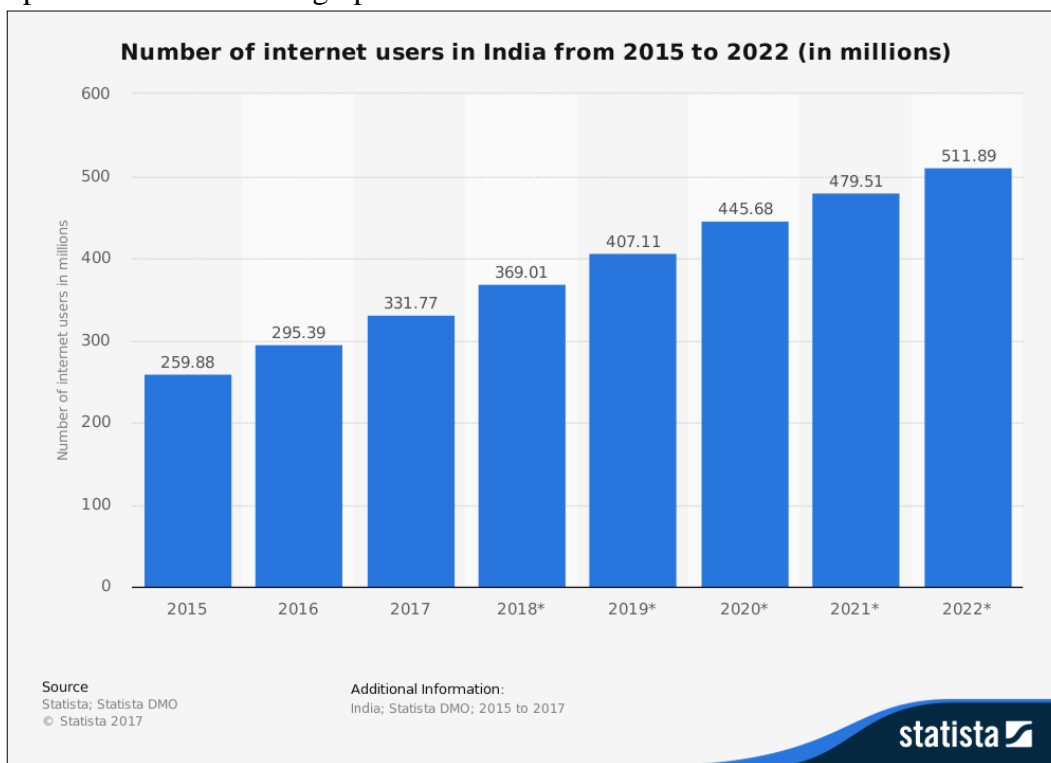
The Buzz around Digital Marketing

Digital Marketing also called as internet marketing or online marketing is a marketing technique which uses electronic devices like desktops, laptops, tablets and smart phones with internet as a medium of communication with customers. It is a subset of marketing function and can be used to promote and brand products with the help of digital technologies thus enabling the organization to reach millions of targeted customers within hours and couple of clicks on internet.

Digital marketing is the backbone of Ecommerce Industry which is growing at a very rapid pace. The below graph shows how the online retail has grown in India in past years.



The reason for this growth is the penetration of Internet which is expected to further go up as seen in the below graph



Marketing Mix: Traditional Marketing Vs Digital Marketing

Every business wants to grow and develop a strong base of loyal customers by Advertising and promoting their products. To achieve this, organization can choose between Traditional Marketing and Digital marketing. Both the channels apply the same strategy of segmenting the market, understanding the customer and positioning itself through great storytelling.

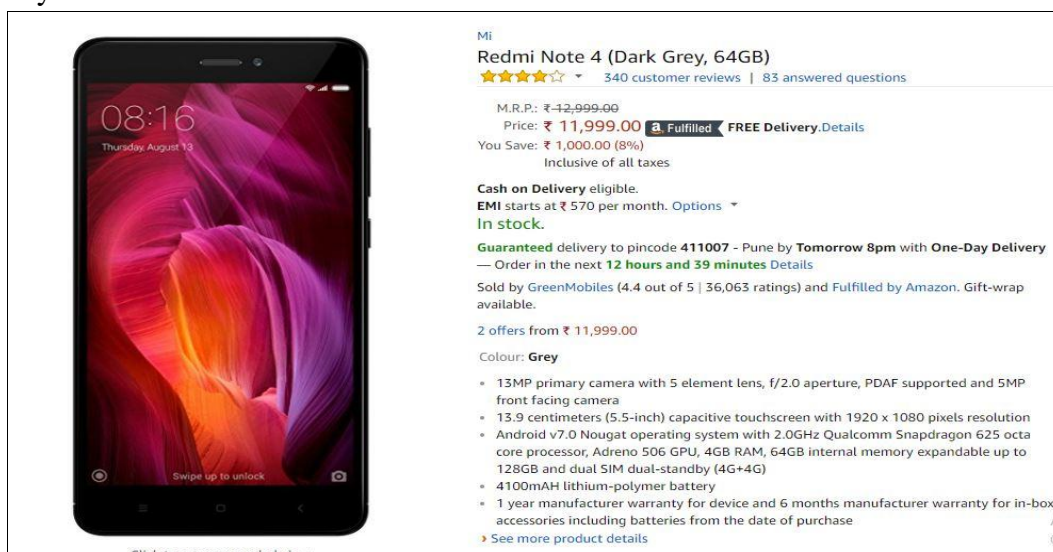
The 4ps of marketing also called as Marketing Mix has been around and followed for more than 70 years now. There have been versions and revisions of the basic principals in the form of 7Ps, 4Cs and so on, however the original Principles still holds true. We

need to analyze how the use of internet and online buying has changed the marketing mix.

Product: Till now when consumers were making a buying decision they could touch and feel the product and then decide after getting convinced with the quality and value that the product is offering. With more and more customers shifting towards online purchase, they are finding it difficult to understand the product features and feel confident about their buying decision without touching and feeling the product. So marketer needs to make up for the loss of physical shop experience which can be achieved by focusing on the below factors:

Images and Product Description:

Having clear images, Product description, videos with product features, information about Product warranty and after sales service can provide a great shopping experience to buyers.



Cross-selling and Product suggestions:

Very few products are used in complete isolation and so opportunities should be explored for cross selling based on the product features or buying pattern of other customers. For example when a customer buys a mobile phone, the website auto suggests to buy mobile cover and a memory card. These are autosuggestions based on intelligence, that Customer who buys mobile phone will also need a mobile cover or from past experience that the customer who has brought mobile phone has also purchased memory card.



Packaging:

Sky is the limit on how unique and memorable you want your customer experience to be. Product packaging plays a crucial role in creating a great buying experience that can act as a marketing channel itself. Apart from aesthetics, the packaging needs to be sturdy so that the product does not get damaged in transit.



Question and Answer Forums:

Forum for question and answers can be a good opportunity to interact with customers and help them understand the product features and answer their queries, thus having an awesome shopping experience for the buyers. QnA can be also integrated with social media platforms like Facebook and Twitter.

| | |
|----------------------|--|
| ▲ 0 votes ▼ | Question: Do we get Earphones also with the phone? |
| | Answer: No By AH DISTRIBUTORS SELLER on 27 January, 2018 |
| ▲ 0 votes ▼ | Question: which one is better redmi note4 or mi max2 |
| | Answer: No one By subhendu das on 28 January, 2018 |
| ▲ 0 votes ▼ | Question: It is 4g volte phone |
| | Answer: Yes By GURMEET on 3 February, 2018 |
| ▲ 0 votes ▼ | Question: Does it support pen drive |
| | Answer: Yes By AH DISTRIBUTORS SELLER on 30 January, 2018 ⌵ See more answers (1) |
| ▲ 0 votes ▼ | Question: does it have corning gorilla glass? |
| | Answer: yes By Amazon Customer on 1 February, 2018 |

Reviews:

Reviews act as a word of mouth and provides customer feedback about the product. Reviews are important as they speak about the credibility of the product and buyer experience.

Mi
Redmi Note 4 (Dark Grey, 64GB)
★★★★☆ 340 customer reviews | 83 answered questions

★★★★★ MI Note 4
 By Shanwaz Siddiqui on 31 January 2018
 Colour: Grey | Verified Purchase
 Fantastic Battery Life
 Amazing Performance
 Amount Worthy!!!
 Great Work MI!!!!

▶ [Comment](#) | 2 people found this helpful. Was this review helpful to you? [Report abuse](#)

★★★★★ Go for it without any hassles
 By Mohsin on 4 February 2018
 Colour: Grey | Verified Purchase
 This product awesome for this price range... Belive me this mobile made for average range users... And it's having good features... Overall I can give 10 out of 10 rating to this mobile...

▶ [Comment](#) | 4 people found this helpful. Was this review helpful to you? [Report abuse](#)

★★★☆☆ Phone is nice very smooth operating by charger is not working contact ...
 By SHASHIKANT on 28 January 2018
 Colour: Grey | Verified Purchase
 Phone is nice very smooth operating by charger is not working contact Amazon replace the charger they said only charger not replace whole Mobile pocket is replace why?????

▶ [Comment](#) | One person found this helpful. Was this review helpful to you? [Report abuse](#)

★★★★★ Excellent in this price.
 By Sumit Arya on 31 January 2018
 Colour: Black | Verified Purchase
 World's best mobile in this price, I got it in republic day sale and it costs me Rs. 9899/=

▶ [Comment](#) | One person found this helpful. Was this review helpful to you? [Report abuse](#)

Promotion:

Historically products have been promoted using one way communication through TV, Radio and newspaper ads with no option for creating a personalized campaign. However Internet offers various ways to create personized tailor made content using webpages, Blogs, social media, email and so on thus enabling and encouraging two way communication with right people at right time.

Below are the most commonly used modes of Promotion and communication:

Search Engines: Search engines are most commonly used mediums by customers to get information about product and service. It is very important to rank on search engine so that it gets more clicks and subsequently more conversions. You can rank organically by creating content and building back links using SEO or inorganically by using paid options like Adwords.

Google, Bing and Yahoo are the most commonly used search engines globally with google being the market leader with 75% Market share.

The screenshot shows a Google search for "lenovo k8 note". The search bar at the top contains the text "lenovo k8 note" and the Google logo. Below the search bar, there are tabs for "All", "News", "Images", "Videos", "Maps", and "More". The search results show "About 17,00,000 results (0.38 seconds)".

Under the heading "Shop for lenovo k8 note on Google", there are five sponsored product listings:

- Lenovo K8 Note (Venom Black, 4GB)**: ₹ 12,999, Amazon India
- Lenovo K8 Note (Fine Gold, 4GB)**: ₹ 13,550, Amazon India
- Lenovo K8 Plus (Venom Black, 3GB)**: ₹ 9,999, Flipkart
- Lenovo K8 Note (4 GB) (Gold, 6GB)**: ₹ 10,499, Quikr, Free shipping
- Lenovo K8 Note Black 64 GB (4GB)**: ₹ 13,999, eBay India

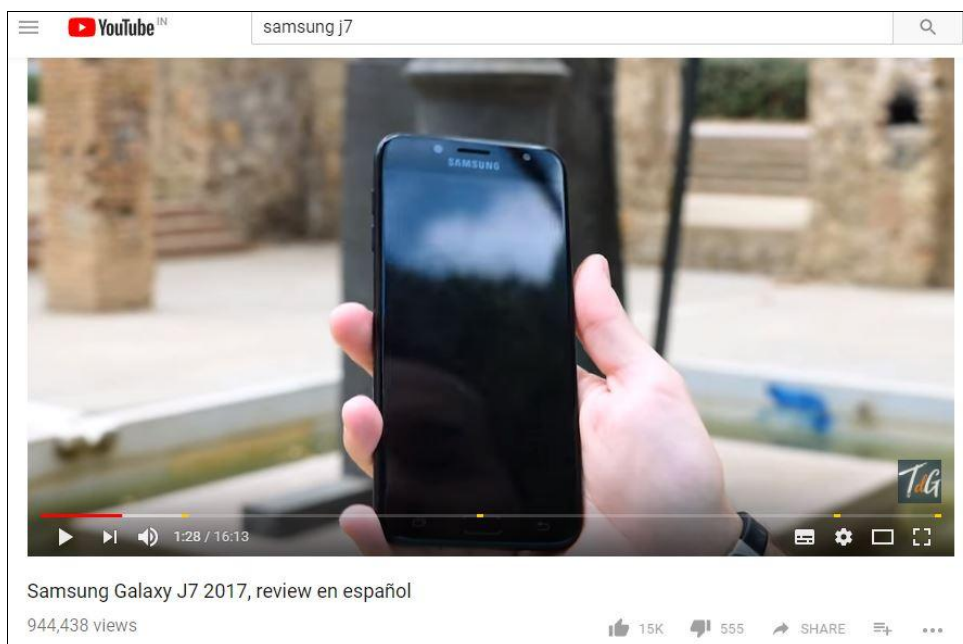
Below the sponsored listings, there are several organic search results:

- Lenovo K8 Note price, specifications, features, comparison**: <https://gadgets.ndtv.com/lenovo-k8-note-4302>. Description: Lenovo K8 Note smartphone with 5.50-inch 1080x1920 display powered by 1.4GHz processor alongside 3GB of RAM and 13-megapixel rear camera. Release date: August 2017. Colours: Fine Gold, Venom Black. Battery capacity (mAh): 4000. Weight (g): 180.00.
- Lenovo K8 Note: Price, Specifications, Reviews. Buy Lenovo K8 ...**: <https://www.amazon.in/Lenovo-Venom-Black-System-Update/dp/B01LZKSUXF>. Rating: 3.4 - 13,633 reviews. Price: 12,999.00 FREE Delivery. Details. You Save: 1,000.00 (7%) M.R.P.: 13,999.00.
- Lenovo K8 Note - Full phone specifications - GSMArena.com**: https://www.gsmarena.com/lenovo_k8_note-8794.php. Description: Lenovo K8 Note Android smartphone. Announced Aug 2017. Features 5.5" IPS LCD display, Helio X23 chipset, Dual: 13 MP + 5 MP primary camera, 13 MP front camera, 4000 mAh battery, 64 GB storage, 4 GB RAM, Corning Gorilla Glass 3.
- Lenovo K8 Note | Deca-core Smartphone for Photography | Lenovo India**: <https://www3.lenovo.com>.

YouTube:

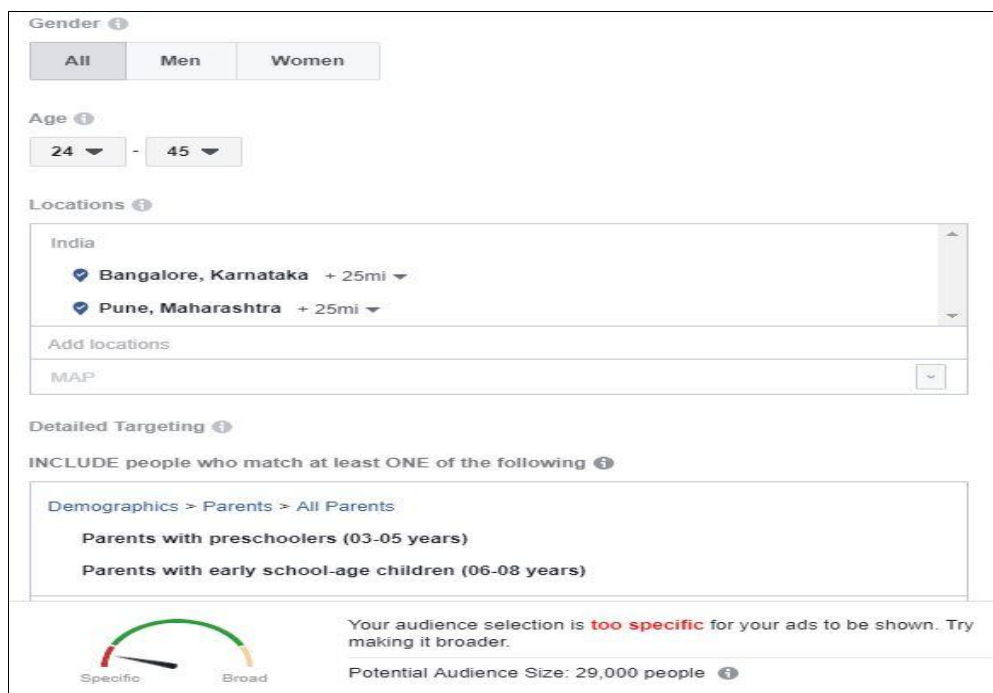
YouTube is a video streaming platform which can be of great help to any business as it can enable them to find a group of people whom they wish to target and convert them into customers by educating, entertaining and providing solution to their problems.

YouTube is second largest search engine and third most visited website in the world followed by Google and Facebook. Four billion videos are viewed every day and 100 hours of videos are uploaded every minute on YouTube. A business can use YouTube to reach out their target audience either by creating informative videos about their products or by advertising on other popular videos at a very less cost



Facebook:

Facebook has 1.19 Billion users thus allowing you to target customers by their location, Age, Gender, income ,interests and so on which not only helps you to drive traffic to your ecommerce store but also the physical store . Like and share are excellent features provided by Facebook which will help you in achieving multilevel marketing .So if someone likes your Business page he will receive updates from you about new products and promotions and when someone shares your page all people in his friend list who also may be your prospective customers can see the post will also be directed to your page.



Twitter:

Twitter can be used to connect with your customers, ask and answer questions, create buzz, position yourself as an expert and many more things. 271 million people use twitter and nearly 500 million tweets go out each day which makes it a social media Giant.



Price

Price is the most crucial factor which influences the buying decision of customer in traditional business. However in ecommerce along with price, delivery time, Payment methods and return policy also play an important role. So below are the benefits offered by ecommerce over traditional business.

Price Comparison: Customers can compare and choose from variety of options available on internet and select the best option which offers maximum value not only in terms of price but also features.

A screenshot of a price comparison website. The page title is "Compare Samsung Galaxy J7 vs Moto G5 vs Oppo R1". It shows three device cards with "Buy @Amazon" buttons. Below is a "SUMMARY" table comparing specifications:

| | Samsung Galaxy J7 | Moto G5 | Oppo R1 |
|-------------|-------------------|----------------|----------------|
| Performance | Octa core | Octa core | Quad core |
| Display | 5.5" (13.97 cm) | 5.0" (12.7 cm) | 5.0" (12.7 cm) |
| Storage | 16 GB | 16 GB | 16 GB |
| Camera | 13 MP | 13 MP | 8 MP |
| Battery | 3000 mAh | 2800 mAh | 2410 mAh |
| Ram | 1.5 GB | 3 GB | 1 GB |

Delivery Time and Cost:

Delivery time plays a crucial role in buying decision of customers and they tend to select product which are delivered free and in less time. With logistics integrated real time with ecommerce, it is possible to determine the approximate delivery time based on the Pin code of customer. Amazon India has created a network of warehouses which enables them in offering one day delivery to Prime customers.

Samsung
Samsung On7 Pro (Gold)
★★★★☆ 10,555 customer reviews | 1000+ answered questions

M.R.P.: ₹9,490.00
Price: ₹7,990.00 **Amazon Fulfilled** **FREE Delivery**.Details

You Save: ₹1,500.00 (16%)
Inclusive of all taxes

Cash on Delivery eligible.
EMI starts at ₹380 per month. Options ▾

In stock.

Guaranteed delivery to pincode 411007 - Pune by **Tuesday, February 6 8pm** with **One-Day Delivery** — Order in the next **22 hours and 43 minutes** Details

Sold by STPL Exclusive Online (4.4 out of 5 | 11,611 ratings) and Fulfilled by Amazon. Gift-wrap available.

2 offers from ₹7,990.00

Payment Methods:

There are various payment methods and discounts offered

- 1) EMI: Buyers are offered option of EMI payments

Apple
Apple iPhone 7 Plus (Silver, 32GB)
★★★★☆ 753 customer reviews | 564 answered questions

M.R.P.: ₹59,000.00
Price: ₹57,999.00 **Amazon Fulfilled** **FREE Delivery**.Details

You Save: ₹1,001.00 (2%)
Inclusive of all taxes

EMI starts at ₹2,757 per month. Options ▾

In stock.

Guaranteed delivery to pincode 411007 - Pune by **Tuesday, February 6 8pm** with **One-Day Delivery** — Order in the next **22 hours and 34 minutes** Details


Sold by Appario Retail Private Ltd (4.6 out of 5 | 8,999 ratings) and Fulfilled by Amazon. Gift-wrap available.

3 offers from ₹57,999.00

2) Cash on delivery: In this the buyer is not required to pay until the order is delivered.

Another payment method

Credit card



Debit card

Choose a Bank ▾

Net Banking

ICICI Bank ▾


EMI Unavailable Why?

Cash on Delivery (COD). We also accept Credit/ Debit cards on delivery, subject to availability of the payment device. Please check with the delivery agent.

More Payment Options

Gift Cards, Vouchers & Promotional Codes

▶ Enter a gift card, voucher or promotional code



Return Policy:

Return policy gives buyers confidence about their buying decision as they have flexibility to return the product if they don't like it and get full refund from the seller. Almost all major ecommerce players provide a hassle free return policy of 3 days to 30 days (depending on the product category) in which the buyer can return the product back to the seller and get full refund without being questioned.

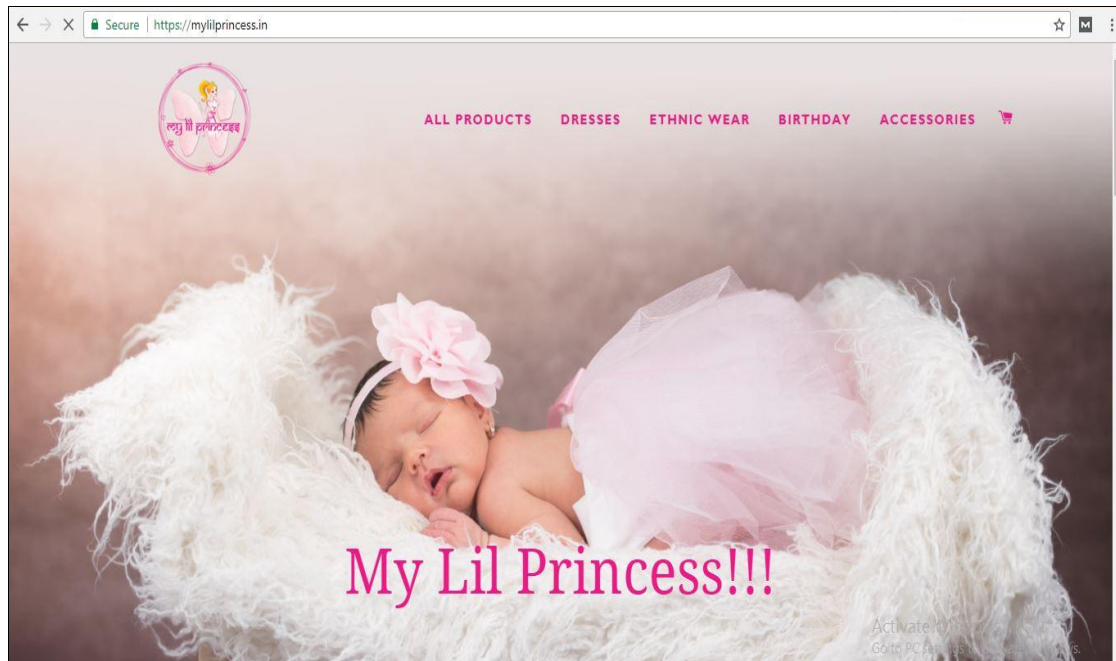
| | | |
|--|-----------------------------|---|
| Mobile Accessories | 10 Days; Replacement/Refund | <ul style="list-style-type: none"> Not eligible for return if the item is "No longer needed" Screen guards, screen protectors and tempered glasses are non-returnable. |
| Used Mobiles, Tablets | 10 Days; Refund only | <ul style="list-style-type: none"> Refunds applicable only if it has been determined that the item was not damaged while in your possession, or is not different from what was shipped to you. |
| Mobiles and Tablets with Inspect & Buy label | 2 Days; Refund only | <ul style="list-style-type: none"> Refunds will be issued only if it is determined that the item was not damaged while in your possession, or is not different from what was shipped to you. |
| Tablets (new and certified refurbished) | 10 Days; Replacement only | <ul style="list-style-type: none"> Not eligible for return if the item is "No longer needed" |

Place:

Place and Promotion are the two Ps that have demanded the most adjustment for marketers today vs. those working as brand managers 10+ years ago.

In traditional marketing set up organization relied on a strong sales force spread across their target market interacting with the customers and developing relationships. However today's digital age offers customers an opportunity to research their requirements and buy products and services with little or no interaction with the sales team. Companies can sell their products from their own website or market places like Amazon thus bringing down the cost of place and man power.

It also means that they have to focus a lot on building an engaging website and creating content around their products and services.



Conclusion

Traditional ways of marketing still hold good but they are no longer having the same impact as they used to have a decade back. The prospective customers today are glued to their smartphones and are constantly distracted so the span of attention is limited. The goal of marketing professionals today should be to find the best ways by which they could grab that limited attention by communicating stories that resonate with their target audience, thus making them buy the product or service which they intend to sell. The traditional 4Ps of marketing needs a revolutionary change as referred in a research paper published in Harvard Business Review. In today's digital age, companies need to think more real time, be more customer-centric and more scalable in approach. With the approach proposed in HBR, the 4P framework needs to be reworked on the lines of Solution, Access, Value and Education, also called as S.A.V.E. framework.

Focus on Solution instead of Product: Customers today don't care about the product. All they are interested in finding is a solution to a problem. So products need to be replaced by solutions.

Focus on Access instead of Place: In today's world of high-speed internet, place becomes irrelevant. What matters most is providing the customer when he wants it.

Focus on Value instead of Price: Today the customer is more concerned about the value of the product than the price it quotes. Price becomes irrelevant if the product offers the value that the customer desires.

Focus on Education instead of Promotion: Providing Information and educating the customers about the product and service will make them get familiar and will create trust even before the purchase is made.

This S.A.V.E framework can be of great help in defining the digital strategy of an organization thus enabling them to create awesome products, flawless buying experience providing tremendous value along with engaging and enabling two way communication with their customers.

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INDUSTRIAL AND SERVICE SECTOR GROWTH IN INDIA- CHALLENGES AHEAD

Mr.Sagar Shashank Pole
MUSCAT(OMAN)

ABSTRACT

The main cause of slow industrial and services sector growth is the corruption caused because of reductions, controls, and licensing policy in India. For free economy it is essential to exercise deregulation, lower down the controls and make easy policy framework to function in Indian economy. The politicians should make business friendly environment and the economic policies to be framed on the basis of the potential of economy. Indian service sector is having more potential for growth as India is the 2nd largest country considering the educated labour force available. At the same time it is the 3rd largest market in the world. So India is getting the benefits of population or demographic dividend. The fast growing economy will certainly lead to the considerable service sector growth in the country. Hence it has become essential to the scholars I the research to study and point out newer areas for the development of service sector in India. Growth of the service sector will not; however be a miracle solution to the problem of sustainability. As the response to service sector from industrial and agriculture sector may not correspondingly increasing. The financial, real estate services should be properly motivated and brought under organized sector by the planed efforts of the government. This is essential to boost up services sector.

Key words: *Business friendly environment, economic reforms, FDI, Make in India, Human capital, Natural capital*

Introduction

The main cause of slow industrial and services sector growth is the corruption caused because of reductions, controls, and licensing policy in India. For free economy it is essential to exercise deregulation, lower down the controls and make easy policy framework to function in Indian economy. The politicians should make business friendly environment and the economic policies to be framed on the basis of the potential of economy. The poverty eradication is one of the reasons why should we concentrate on industrial and services sector growth in Indian economy. There should be employment generation through regular efforts of economic development of the nation. As per the 2013 U.N. Report 1/3rd of the world's poorest people live in India. Hence it has become essential to generate employment opportunities for the skilled as well as unskilled labour. Accordingly the industrial and service sector growth must be assured and should be on top priority list of the Government of India.

Globalization & Economic Reforms

The illegal and corrupt way is being followed in order to gain high amount of profits by minimum efforts. The problems like poverty, unemployment, inequality, exploitation are not properly tackled by the Indian economic policies. The economic

reforms in the present global scenario requires business friendly environment where unemployment, inequality and exploitation has no place. The Indian economic problems should be resolved with the help of the Indian solution. The country cannot follow blindly the western results and policies for the economic development of the nation. The system is essential to bring out solution in our own manner suited to our own environment. Economic reforms for the purpose of industrial and services sector growth should be adopted in a manner it can help the country to grow and prosper. The poverty eradication is possible only when the country can expand and extend the operational area of industrial and service sector to rural sector for the purpose of limiting the migration from rural to urban area for want of job. The economic reforms for the purpose of industrial and service sector growth should be selective, need based and suited to the existing economic arena of the country. Hence, industrial and service sector growth can be studied in depth for economic development.

Hindrances in Industrial and Service Sector Growth

1. No proper infrastructure facilities are available in India to promote the industrial and service sector growth. Accordingly Indian govt. has introduced Make in India programme for attracting FDI in this sector i.e. infrastructure.
2. The per capita income in India is not uniform in all the states of India. It is uneven and hence results in economic imbalances. The per capita growth creates demand to the products and services and accordingly it helps to develop industrial and service sector in the country.
3. The lack of monetary and fiscal discipline in the country adversely attacks the growth of industrial and services sector. The deliberate efforts are hence necessary for the better monetary and fiscal discipline.
4. The rupee/dollar relationship is adversely affecting Indian economy as the consistently fall in rupee value results in adverse balance payment, affecting industrial / services sector adversely.
5. The industrial and service sector should work for the upliftment of rural poor. So need based service sector and industrial sector is the need of the day. The rural India should be concentrated for economic development.
6. The new government is planning to attract the FDI in industrial and service sectors. It is necessary to probably channelize the flow of FDI and assure proper utilization of the funds received out of FDI.
7. Jobless growth of Indian economic sectors will result in unrest amongst the unemployed youth. And not only that various classes from the society will have unrest for economic reforms and growth they will not support the development if they are not able to gain out of industrial and service sector growth.
8. The agro sector should be properly concentrated and the agro based industries are to be established in the area of rural sector to provide better job opportunities to the rural youth and needy people.
9. The new economic policy of Make in India concept is attracting FDI in various sectors. Govt. of India has decided to provide 25 industrial and service sectors for

the implementation of make in India programme. This FDI in infrastructure and other service sector especially IT will boost employment opportunity in India.

10. The failure of economic policies so far has resulted in economic, social and political problems. The economic policies should be so framed to suit common men of the country. The labour and farmer specially along with the educated youth of the country.
11. India is a country whose majority of the people are dependent on agriculture. Of the total exports 13.1% comes from Agriculture. Agriculture income contributes 24.7% to the GDP. 58.4% of the total workforce is provided unemployment with the help of agriculture. However, the agriculture sector is not properly attained and hence it is essential to provide importance for agro based industries in rural India.

Performance of the Service Sector

- ❖ The increase in urbanization has resulted in growth of service sector. There is a demand for intermediate and final consumer service. However, quality of service is the need of the day.
- ❖ Service sector today is the largest and fastest growing sector all over the world. This is contributing more to the global output and providing more employment to more people than any other sector.
- ❖ In advanced countries / economies the growth of primary and secondary sectors are directly dependent on the growth of services like Banking, insurance, trade, commerce, entertainment and so on.
- ❖ However the boom in service sector sometimes is jobless. So it is called as jobless growth. It is not proportionately accompanied with the sector's share in national employment.
- ❖ Hence it is always stated that service sector growth must be accompanied with industrial sector growth. The mere development of service sector cannot be sustainable growth.
- ❖ Indian presently is coming as global service hub to increase its economic strength and per capita income of the people in the country; this makes India strong in the service sector because of availability of skilled labour.
- ❖ IT, ITES, Telecom and ITES BPO/KPO revolution has boosted economy of India. Govt. has taken measures to promote IT business in India. Other sectors like telecom, retail hospitality, entertainment and financial sector are also showing consistent growth. Thus there are good opportunities for the growth of the services sector presently.

Employment Generation out of Service Sector

- ❖ The service sector produces intangible goods, some well known government, health and education. Some are communication, information and business services.
- ❖ Labour productivity in service sector does not grow as fast as it does in agriculture and industrial sector.
- ❖ As share of service sector increase in GDP the employment generation also increases. At the same time because of Technological development, the agriculture

produce is increasing by lowering down the employment in that particular sector. Service sector is growing sector in all countries. Service sector is contributing for almost 2/3rd of the world GDP.

- ❖ Service sector requires human capital than the Natural Capital. The educated workers are creating more and more demand in service sector. This is increasing the investment in the education. Because of very nature of service sector business it exercises less presence on the local, regional and global environment.
- ❖ The educated labour force is employed. In the service sector which could not be otherwise employed. But as health, education sector is developing fast the service sector is gathering some sort of momentum for economic growth.

Perspective ahead:

- ❖ As the income and per capita income of an individual is increasing agricultural sector is losing its prime importance. This was in fact resulted in the growth of industrial sector previously and after post industrialization it has given way to the growth of service sector. All growing economies are supposed to go through such transition period.
- ❖ The structural changes in consumer demand and in the consumer behavior service sector are supposed to gain more attraction.
- ❖ The growth of per capita income has created demand for education, health, communication, IT and such relative jobs. So we can observe relatively large inclination towards these sectors. India has the potentiality to become education centre and can attract the foreign students in Indian universities, thereby increasing the scope for earning foreign exchange. This will be utilized for growth of economy. At the same time efforts are but essential for making country as health, tourism destination.
- ❖ Growth of service sector will make development more sustainable. Most high income countries today are post industrializing becoming less reliant on industry where as low income countries are becoming the industrialization dominating countries. And hence we can observe the phenomenon of growth of service sector uniformly all over the world.
- ❖ Indian service sector is having more potential for growth as India is the 2nd largest country considering the educated labour force available. At the same time it is the 3rd largest market in the world. So India is getting the benefits of population or demographic dividend. The fast growing economy will certainly lead to the considerable service sector growth in the country. Hence it has become essential to the scholars I the research to study and point out newer areas for the development of service sector in India.

Conclusion

1. Growth of the service sector will not; however be a miracle solution to the problem of sustainability. As the response to service sector from industrial and agriculture sector may not correspondingly increasing.

2. The financial, real estate services should be properly motivated and brought under organized sector by the planned efforts of the government. This is essential to boost up services sector.
3. Service sector is important for country's sustainable development from the perspectives of the economic, social and environmental growth.
4. Presently service sector is replacing the industrial sector as the leading sector of the economy.
5. Rural and urban divide cannot be observed in the development of service sector business. Because all the regions are undergoing substantial change and the need of services sector is becoming universally required demand by the beneficiaries.
6. The new government policies to introduce FDI in majority of the services make service sector further strengthen by introducing concessions to IT sector. At the same time introduction of Private Universities is the welcome step to provide need based and skillful education.
7. The income from services sector in the total GDP is consistently increasing which helps the national economy to progress further. This is related to growth of economy in the desired direction.
8. Outsourcing from the foreign countries is helping India to set more opportunities of jobs, especially in service sector. All the world is pointing out to Indian economy for the labour force available for the all types of jobs (skilled as well as unskilled).
9. Thus the Growth of services sector will help the nation to progress further.

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PRODUCT POSITIONING CONCEPT: CASE STUDY OF CMM MARKET IN PUNE

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Abstract

The purpose of the paper is to study the product positioning concept and to understand its relevance in the marketing strategy of Industrial Products. To know more on the subject existing literature is reviewed. The study on the past work gives information on the various attributes and how product positioning has also been carried out to know how its relevance in the marketing of the Industrial Products. Attempt has been made to explore how product positioning can play the role in Industry For study CMM machine market has been chosen from Pune industrial region in India.

Keywords: *Positioning, Industrial Product, Differentiation, Brand, Coordinate Measuring machine*

Introduction

Product positioning is defined as creation of an image of company products and services in the consumer minds in order to differentiate the product with that of competition. The Concept of Product positioning is explored to find its importance in the marketing strategy. Product Positioning was first used way back in 1969 by Trout and over the time and found it has gained importance in brand management has been recognized.

A Coordinate measuring machine (CMM) is a measuring machine used for 3D measurement of physical geometrical features of components in the field of engineering. The use of CMM has expanded from Quality control to the Process control in India to ensure product conformity at every level of production activity.

CMM market is the sub segment of Metrology market which constitute a small portion of the machine tool industry in India. The CMM market is controlled by few companies who are competing on the basis of pricing, accuracy, size, customer relationship, product differentiation and R & D efforts

The major demand is from the Automobile OEMs and their vendors, recently the entry of private sector in Aerospace segment too has resulted in the demand of the machines. Considering the complexity of the product the sales are mostly direct with little involvement of dealer network.

Product Positioning Concept

The term positioning is mostly associated with behavior of customer of Consumer Goods where in the customer minds were thought to be influenced by advertisement and by delivering lot of product information. However findings show that lot of

research has been carried out on consumer products and some relevance for Industrial product.

The Positioning communicates the product attributes and benefits to the target customers based on their needs, substitutes available and available communication channels.

Literature Review

Ries and Trout 1981 were the first to introduce the concept of positioning and they referred it mostly to the control of consumer mind. Etzel Walker and Stanton (1977) introduced differentiated (positioning) in the definition of marketing. According to Arnott (1992) positioning could be achieved by modifying the tangible characteristics and the intangible perception of marketable offering in relation to the competition.

Product positioning has been defined as detecting or developing product attributes which establish a competitive advantage.

According to Aakar and Shansby (1982) positioning decision is crucial strategic decision because of its importance in customer perception decision. They stated that marketing program can benefit and be aligned for consistency if there is a clear positioning strategy. They gave 6 approaches to the positioning strategy:

1. Positioning by attributes
2. Positioning by Price/Quality
3. Positioning with respect to use an application.
4. Positioning by product user:
5. Positioning with respect to product class
6. Positioning with respect to competitors

Kapferer (1992) emphasized on the brand distinctive and motivating attributes needed for competing in the market for brand building programs.

Michael Treacy and Fred Wiersema (1993) studied positioning on the basis of value disciplines like Operational excellence, Product Leadership and Customer Intimacy.

According Temporal (2002) positioning is important for brand management because it considers the basic tangible aspects of the product for building the intangibles benefits in the form of an image in people minds.

Lamb, Hair, McDaniel (2004) emphasized Positioning as development of specific marketing mix for influencing potential customers perception of brand, product line or organization in general.

Armstrong (2006) mentions positioning as arrangement for a product to occupy a clear distinctive and desirable place in the minds of the target customers.

The review of the literature shows that there are different views on the term positioning and how a positioning decision can affect the marketing strategic advantage of a product.

History of CMM development

The CMM development took place in phases in the European market and the first CMM having 2 axis was developed by the Ferranti Company in Scotland in the 1950s to meet the precision measurement of their military products. The first 3-axis model was introduced in the 1960s by DEA of Italy and computer control by Sheffield of the

USA in the early 1970. Leitz Germany subsequently produced a fixed machine structure with moving table. In India CMM was introduced much later in the 1980s when Accurate Gauging took initiative to develop the first Indian CMM in 1987.

The present manufacturing demands high accuracy speed and flexibility in measurement of components and therefore CMM have become indispensable tool for measurement

CMM Market in India

For positioning a CMM it is important to understand some of the important attributes of the market.

Product complexity. CMM product is complicated and requires a lot of technical knowledge to sell. Since the product is custom engineered machines the buying is influenced by many attributes.

CMM buyers. Unlike in Consumer marketing where purchaser can be influenced by variety of advertising techniques CMM consist of very knowledgeable buyers (and often buyer teams) who analyze products and purchases in terms of user benefits often measured in return on investment.

Bids and quotations. CMM is often sold by request for quotes (RFQs) that may require a quotation with elaborate technical specifications to define the product.

CMM buying process is different for customer type and decision makers differ with the buying process (Refer Fig. 1) The product is perceived differently according to the attributes and therefore the marketing strategy has to address their requirements. The product positioning can create value for customers by focusing on the most important attribute that customers prefers over products offered by other competitors.

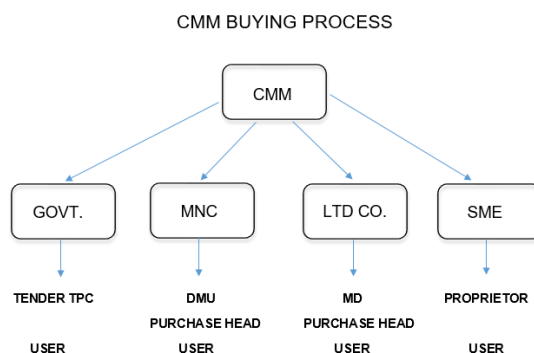


Fig: 01

Advertising and promotion. There is more stress on tangible aspect of the CMM attributes rather than non tangible aspect however it is very difficult to identify the buying influences produced by industrial advertising.

Market information. Being a technical product the CMM buyers seek lot of knowledge before making any decision. Since little database information is available on CMM product it is difficult to acquire the industrial market niches.

Thin Line between the CMM for differentiation as all CMMs have common applications

Research Methodology

For the secondary data CMM import 2016-17 report of DGFT is used for the analysis and finding the key CMM players in the Indian Market.

Following methods have been used to collect the primary data

1. Observation Method
2. Quantitative method

Quantitative research is carried out to find the CMM Brand share in the market and study the features that are preferred over other brands.

Kolmogorov Smirnov One sample Test

This test is used for comparing the distribution on the ordinal scale. The test is concerned with the degree of agreement between the distribution of observed values and theoretical distribution. Also to determine whether the scores in the sample can be reasonable thought to have come from a population having the theoretical distribution.

The unit of analysis is the sample of 40 CMM users from in and around Pune city were interviewed and following results were obtained.

One-Sample Statistics

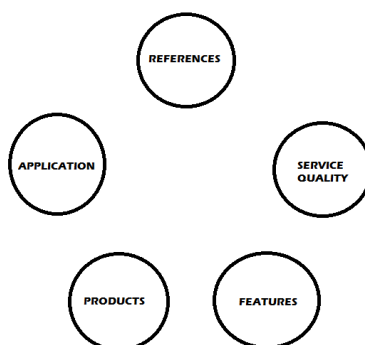
| | N | Mean | Std. Deviation | Std. Error Mean |
|---------------------|----|--------|----------------|-----------------|
| Machine Performance | 40 | 1.6500 | .94868 | .15000 |
| After Sales Service | 40 | 2.8000 | 1.06699 | .16871 |
| Price of machine | 40 | 3.9750 | 1.18727 | .18772 |
| Brand Name | 40 | 4.0000 | 1.33973 | .21183 |
| Application Support | 40 | 2.5750 | .95776 | .15144 |

One-Sample Test

| | Test Value = 0 | | | | | |
|---------------------|----------------|----|-----------------|-----------------|---|--------|
| | t | df | Sig. (2-tailed) | Mean Difference | 95% Confidence Interval of the Difference | |
| | | | | | Lower | Upper |
| Machine Performance | 11.000 | 39 | .000 | 1.65000 | 1.3466 | 1.9534 |
| After Sales Service | 16.597 | 39 | .000 | 2.80000 | 2.4588 | 3.1412 |
| Price of machine | 21.175 | 39 | .000 | 3.97500 | 3.5953 | 4.3547 |
| Brand Name | 18.883 | 39 | .000 | 4.00000 | 3.5715 | 4.4285 |
| Application Support | 17.004 | 39 | .000 | 2.57500 | 2.2687 | 2.8813 |

Positioning Model for CMM

The Study is carried out to find the important attributes on the basis of which the CMM can be positioned for creating the value in the marketing. Some of the important attributes on the basis of which the CMM product can be positioned are listed in the Fig 2. The Positioning strength increases with the number of attributes on the basis of which the CMM is differentiated with the competitors. However there cannot be clear cut compartments as the attributes mentioned are related and influence each other.



Attributes of CMM for Positioning

Fig. 2

Objective of study

1. To find whether product positioning creates value in marketing of Coordinate measuring machine in study of the attributes that will affect product positioning for marketing strategic advantage.
2. Generate greater awareness among the Industrial product companies on the importance of having proper and practical Product positioning framework as a vehicle for product success.

Significance of the Study

To know more about the product positioning for marketing strategic advantage of industrial product. Among various views positioning concept is studied to find most relevant in context of industrial marketing. the significance of literature review to know the product positioning concepts from different perspectives to understand the subject better and to take the insights for the Marketing Strategy.

The importance of delivering intangible benefits is an important factor in the product positioning of the industrial products.

Some of the attributes are listed of CMM and its importance is studied to find the value creation in the market.

Conclusion

Due to the globalization Indian industries are facing global competition and it is imperative that they have the competitive advantage. In the Marketing management there has been lot of study on the competitive advantage and the importance of differentiation. Many statistical tools like factor analysis, perceptual maps have been also used for various models. Product positioning is gaining importance as one of the important element in the marketing strategy. The article brings the importance of this topic and encourages more study for bringing competitive advantage in Industrial marketing.

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HUMAN RESOURCE MANAGEMENT

HUMAN RESOURCE – A KEY CONTRIBUTOR TO BUSINESS SUSTAINABILITY

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Abstract:

Introduction

In the era of Climate change, increasing pollution, Social unrest and cut throat competition, sustainability is the only solution as it balances the triple bottom line – Profit, People and Planet. For any business organisation, it becomes essential to focus on these three aspects of sustainability for long lasting successful existence and sustainable development. For achieving sustainable development, business organisation should focus on their stakeholders, who prove to be critical through Materiality Analysis.

Objectives

1. To understand whether Human Resource is critical stakeholder of the business organisation in the process of achieving sustainability.
2. To understand role of Human Resource in Sustainability of Business organisation
3. To understand talent retention efforts (i.e. Sustainability of Human Resource) of the Business Organisation

Hypothesis

Human Resource is critical stakeholder of the business organization in the process of achieving sustainability

Data

Secondary data i. e. latest two years sustainability Reports of the BSE listed top five companies by market capitalization available on public domain

Methodology

1. Study of sustainability Reports to understand importance of Human Resource for business organisation in the process of achieving sustainability.
2. Study of pathway for sustainability to understand the role of Human Resource in Sustainability of Business organisation.
3. Study of the GRIG4 guidelines, Business Responsibility Reporting principles & Sustainable Development Goals to understand guidelines and principles taking care of Human Resource i.e. people factor of triple bottom line of sustainability

Conclusion

The researcher will understand whether Human Resource is critical stakeholder of the business organisation in the process of achieving sustainability, what can be the contribution of Human resource for achieving sustainable development and how the Human resource can be sustainable i.e. taken care by the business organisation.

Key Words – Sustainability, Human Resource, Stakeholder, materiality analysis, HR sustainability

Objectives

1. To understand whether Human Resource is critical stakeholder of the business organisation in the process of achieving sustainability.
2. To understand role of Human Resource in Sustainability of Business organisation
3. To understand talent retention efforts (i.e. Sustainability of Human Resource) of the Business Organisation

Hypothesis

Human Resource is critical area for business organisation in the process of achieving sustainability

Data

Secondary data i. e. latest two years sustainability Reports of the BSE listed top five companies by market capitalization available on public domain

Methodology

1. Studied sustainability Reports of the BSE listed top five companies by market capitalization, available on public domain to understand importance of Human Resource for business organisation in the process of achieving sustainability. Studied the materiality analysis of the companies and checked whether Human Resource is material area of the Business organisation.
2. Studied the pathway for sustainability: to understand the role of Human Resource in Sustainability of Business organisation.
3. Studied the Sustainable Development Goals , GRIG4 guidelines, and Framework of Business Responsibility Reporting principles to understand guidelines and principles taking care of Human Resource i.e. people factor of triple bottom line of sustainability

Introduction

Sustainability is ability to sustain. It is defined as how biological systems endure and remain diverse and productive. But in 21st century definition of sustainability refers to sustainable models necessary for human beings and planet earth to survive. Therefore sustainability is an act of balancing the Profit -financial prosperity, Planet – Environment Protection and resources conservation and People – Social Equity. The development which is achieved by balancing these three aspects is called as sustainable development.

Sustainability of Business Organisation

In the development process of any country, corporate world is giving maximum contribution. In the operations of the business, the main aim of business is to earn profit i.e. Economic performance, the business organisation has to utilise the natural resources required for their business operations and in the process, they may hamper the environment, therefore the business organisations have to focus on the protection of environment and conservation of natural resources i.e. Planet and without Human Resource, no business can exist and continue, so they have to take care of People. Thus

any business organisation has to balance their performance w.r.t. Profit, Planet and People. Then only there can be development which can be sustainable.

Stakeholders’ of the Business Organisation

Business Organisations have to deal with different parties directly or indirectly related to business, called as stakeholders. Stakeholders are defined broadly as those groups or individuals

- that can reasonably be expected to be significantly affected by the organization’s activities, product and or services and OR
- whose actions are reasonably be expected to affect the ability of the organization to successfully implement its strategies and achieve its objectives.

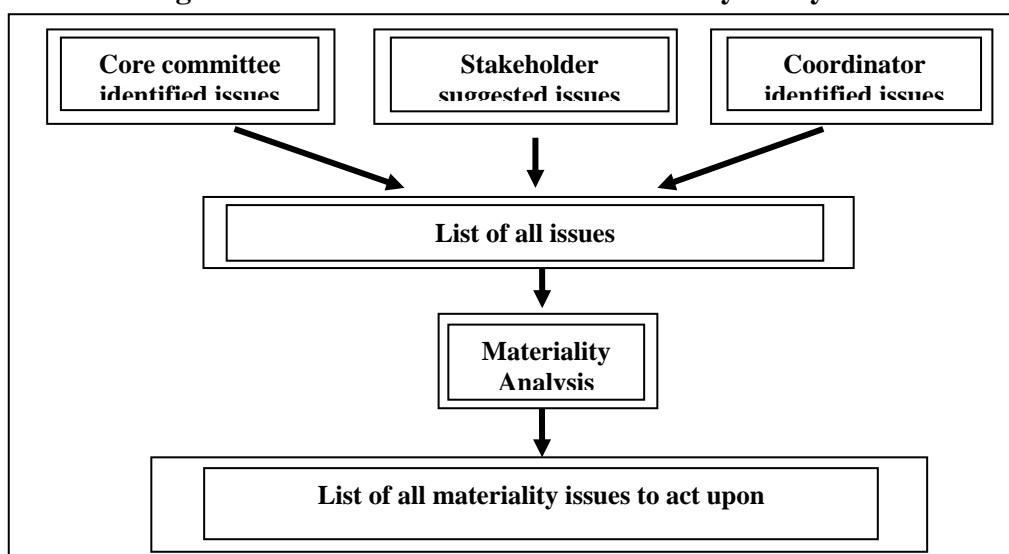
There are number of stakeholders of the business like investors, **employees**, customers, suppliers, local community, competitors, media & academics, trade associations, labour unions, NGOs, government, etc. Business organisation should understand the effect of its each and every decision on stakeholders and effect of stakeholders’ action on the business organisation. The business organisations have to decide materiality issues. Business risks and sustainability related materiality issues are very closely related.

Materiality Issues

The stakeholders of the business are now looking for balanced performance of organization. Financial report could not adequately disclose the organizations’ efforts in environmental and social areas.

There are number of issues which the business has to deal with limited resources. There is a need for a systematic approach for prioritization, as companies have to design the policies and strategies considering these prioritized issues. Priority is given to material issues. Material issues/ aspect are those things that could make a major difference to an organization’s performance. Material information provides the basis for stakeholders and management to make sound judgments about the things that matter to them, and take actions that influence the organization’s performance .This materiality issues can be identified through materiality Analysis.

Figure 1 - This figure shows the Process of the Materiality Analysis



Materiality analysis

By using a materiality analysis business organization can understand those issues which are very important to stakeholders and to business organization itself. Considering the output of materiality analysis the business organization should take action against each issue, for sustainability of their business organization. This analysis will help business organization not only to become sustainable but also will show development opportunities. By grabbing those opportunities business may prosper in future

Figure 2 - This figure shows Steps for Materiality Analysis

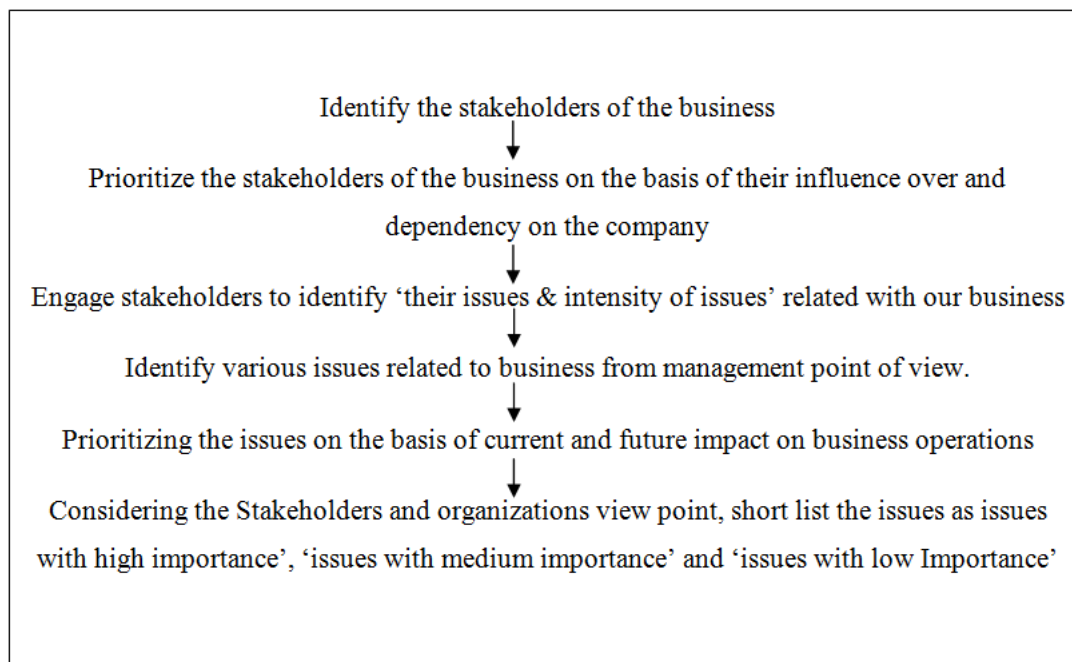
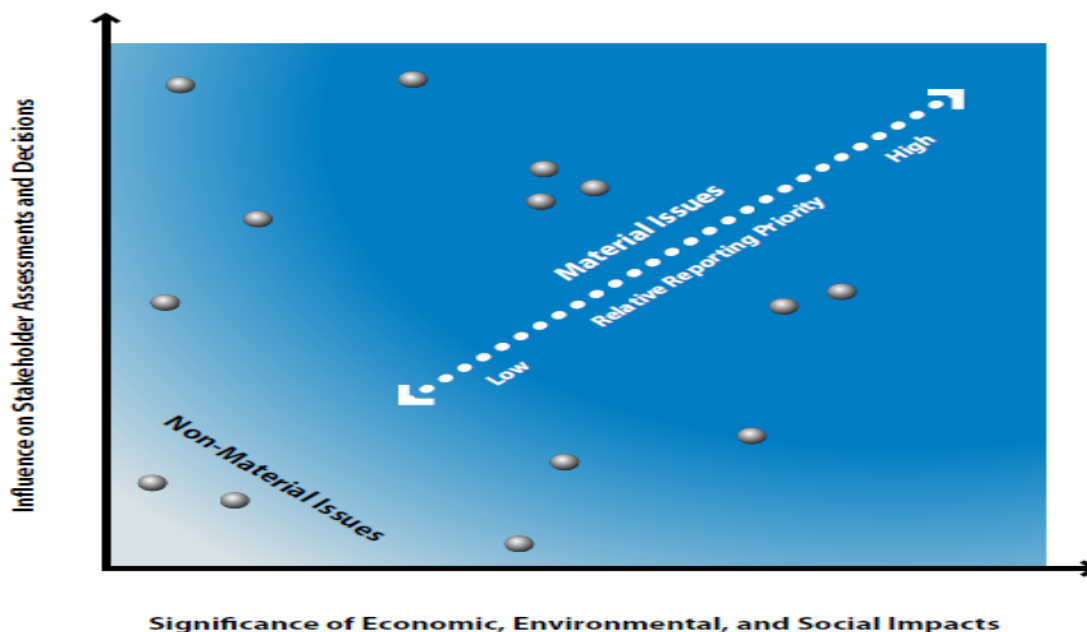


Figure 3 - The Graph showing Materiality Analysis and its output



Materiality analysis of the companies

The Researcher had studied the materiality analysis from Sustainability Reports of the companies to understand materiality issues of the companies and to know whether they are related to Human Resource. The researcher has studied the latest 2 years (for Financial Year 2014-15 and 2015-16) Sustainability Reports of BSE listed top five companies by market capitalization as available in public domain.

BSE listed top five companies by market capitalization as on 10th January, 2018 are as under

TCS, Reliance Industries Ltd., HDFC Bank, ITC, Maruti Suzuki.

The material issues identified by the companies through materiality analysis and they identified following materiality issues related to Human Resources

Table no. 1-Table showing Materiality Issues of BSE listed top five companies by market capitalization

| TCS | RIL | HDFC | ITC | Maruti Suzuki |
|---|---------------------------------|---------------------------------|------------------------|--|
| Working and Labour Conditions | Talent Attraction and Retention | Employment | Health and safety | Employment |
| Learning Opportunities and career Development | Labour Management | Training and Education | Learning & Development | Labour / management Relations |
| Occupational Health and safety | Health and safety | Diversity and Equal Opportunity | Human Rights | Training & education |
| | Employee Diversity | | Employee Engagement | Diversity & Equal opportunity |
| | | | | Supplier assessment for labour practices |
| | | | | Equal remuneration for women & men |
| | | | | Labour Practices grievance mechanism |

(Source – Sustainability Reports 2014-15 & 2015-16 of the companies)

The materiality analysis of all companies highlighted Human Resource is a material and critical area in the sustainability process of the business organisation. **Hypothesis is proved.**

Sustainability & Human Resource

From the above Materiality analysis of the companies , it is highlighted that Human Resource is Key stakeholder of the companies and there are many material issues related to Human Resource. The researcher has further studied

- A. How Human Resource can contribute for the sustainability of the business organisation
- B. How organisation should ensure sustainability of human Resource.

A. Human Resource's contribution for Sustainability of the business organisation

Human Resource is called as asset of the business Organisation. Man, Machinery, Money, Management, Material i.e 5Ms are important aspects of business. Out of these Man is the only factor which is live, can think and act by using his/her own brain. Therefore Man at various levels of management of the business (strategic level, functional level and operational level) and various functional Level plays very important role in the implementation of policies of Business Organization, may it be implementation of sustainability. Each act of the employee can affect and contribute for the ability of the organization to successfully implement its strategies and achieve its sustainability target.

Level wise contribution of Human Resource for sustainability

1. At strategic Level of Management – as Enabler and Decision Maker

- a. To define sustainability Vision, mission and policy by incorporating sustainability agenda in core values, strategies and balanced business score cards.
- b. To provide resources necessary for integrating Sustainability in business operations
- c. To do long term planning for imbining sustainability culture in the organization.
- d. To review organizational performance with respect to sustainability.
- e. To utilize sustainability success for brand enhancement and business development

The sustainability vision will guide the whole organization towards the goal of sustainability. Provision of needed resources will make things to happen in reality and the creation of sustainability culture will motive the employees to value and take initiative in sustainability related activities.

2. At Functional Level – as Manager, Change Agent & Facilitator

- a. To Decide the sustainability agenda and to establish Systems & processes for implementing sustainability in business organisation
- b. To establish Governance mechanism to check the progress of implementation
- c. To Establish systems and processes to ensure accomplishment of mission and vision
- d. To set the system and mechanism to check the performance and establish control to ensure target achievement..
- e. To design sustainable business practices for implementing sustainability in Business Operations
- f. To develop sustainability Centric Mindset through continuous training and skill development Initiatives
- g. To provide leadership opportunities to competent employees related to sustainability.

3. At operational Level – as executor & implementer

- a. To follow standard Operating Processes set by the management
- b. To use resources responsibly to optimize use of natural scarce resources
- c. To manage data accurately and make it available as and when needed
- d. To implement the policies with true spirit
- e. To give suggestion and participate in its implementation supporting sustainability
- **Function wise contribution of human resources for sustainability in business organization**
 - a. **Personnel & Human Resources department:** proper selection of suitable staff, Managing Labour relations, effective communication internal, external, proactive and reactive communications across levels, continuous training and education about sustainability implementation, ensure fairness in policies of performance management.

All these will lead to skilled and satisfied human resource, reduction in social unrest, decrease in labour turnover and thus ensure nurturing of sustainability culture in the organization.
 - b. **Maintenance department:** Continuous and regular maintenance of machines, equipment and tools by the maintenance people. This will reduce the possibilities of accidents and increase the productivity and life of the machine, quality of production. This all leads to sustainability.
 - c. **Finance department:** to track the sustainability performance specially resource conservation and feed MIS to top management to take timely decisions.
 - d. **Marketing department:** to emphasize need for developing environment friendly products and services, utilize the sustainability performance of the organization for brand building and attract new customers.
 - e. **Research & Development department:** use Design for environment principles, life cycle assessment principles and ISO 14062 (integrating environmental issues in product design), environmental labeling, end of life disposal guidelines and create special image of products in the mind of customers, use ROHS(Restrictions On Hazardous Substances). The research by R&D people to find out environment friendly alternative to current product, materials, or some changes in current product leading to natural resource conservation or reduction in pollution in production and use of product, etc. This leads to sustainability at design stage itself which is highest level contribution for sustainability.
 - f. **Fire, Safety & security department:** Proper fire training and mock drill reduces the risk of loss due to fires. the safety of human resources is taken care of by safety department. Fire & Safety department's function is very important function leading to sustainability. Security department ensures that people follow discipline and there is no theft of vital assets. Prevention of loss of human life and property, will be major contribution to Sustainability
 - g. **Production department:** Productivity enhancement measures will ensure prosperity and economic stability. Waste elimination in the processes will ensure environmental sustainability. innovative ideas and suggestion from the persons actually involved in production will be feasible ideas and their timely implementation will lead to sustainability.

B. Sustainability of Human Resource

While dealing with sustainability of the business organization, 'people' include the Human Resource of the business organization. The sustainability process takes care of Human resources. There are various guidelines and principles available which provide guidance for implementation of sustainability i.e. for maintaining balancing between Profit, Planet and People.

The guidelines have also focused on the aspect that how the Human resources sustainability should be focused. Following are some of the guidelines and principles helpful for incorporating sustainability in the business organization.

- a. SDG- Sustainable Development goals-
- b. BRR – Business Responsibility Reporting
- c. GRIG4 Global Reporting Initiatives G4 guidelines

- **SDG- Sustainable Development goals-**

The sustainable Development Goals are a collection of 17 global goals set by the United nations. The SDGs cover a broad range of social and economic development issues. These include poverty, hunger, Health, education, climate change, gender equality, water, sanitation, energy, environment and Social justice. These goals apply to all the countries. Business organisation is also one small system in which all SDG can be applied. Following are some of the SDGs which is related to human being which can be parallelly applied to Human Resource in business organisation

- **GRIG4 Guidelines- Global Reporting Initiatives G4 Guidelines**

Global Reporting Initiative (GRI) is non profit making organization who gives guidelines for sustainability. The latest version of the guidelines given by GRI is GRI G4. These guidelines help the business to progress on the path of sustainability. It has given various indicators about economic performance, environmental performance and social performance indicating your progress or otherwise towards sustainability. The guidelines regarding People Aspect of Sustainability is given in the form of Social Indicators. GRI Social indicators include Labour Practice & Decent Work (LA), Human Rights (HR), Society (SO) and Product Responsibility (PR). Out of these Labour Practice and Human Rights indicators are directly related to human resources of the Business Organisation.

BRR Principles - Business Responsibility Reporting Principles

Business Responsibility Report is a disclosure of adoption of responsible business practices by a listed company to all its stakeholders. This is important considering the fact that these companies have accessed funds from the public, have an element of public interest involved, and are obligated to make exhaustive disclosures on a regular basis

Business Responsibility Report has been designed as a tool to help companies understand the principles and core elements of responsible business practices and start implementing improvements which reflect their adoption in the manner the company undertakes its business. These Business Responsibility Reporting principles guide the company to creates sense about sustainability in the business organisation.

All these guidelines and principles include guidance about three aspects of sustainability. The guidance about ‘people’ aspect of sustainability, ensures the sustainability of human resources within business organisations.

Table no. 2 - The following table shows various indicators and principles related to Human Resource with its effect on sustainability of the human Resource.

| No | Theme | GRIG4 indicators | BRR principles | SD goals | Relation with Sustainability of the Human Resource |
|----|---------------------------------|--|--|--|--|
| 1 | Employment | <p>LA1 - Total number and rates of new employee hires and employee turnover by age group, gender, and region</p> <p>LA2 - Benefits provided to full-time employees that are not provided to temporary or part-time employees, by significant locations of operation</p> <p>LA3 - Return to work and retention rates after parental leave, by gender</p> | <p>BRR3.5 - Businesses should provide facilities for the wellbeing of its employees including those with special needs. They should ensure timely payment of fair living wages to meet basic needs and economic security of the employees.</p> | <p>SDG8 – Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all</p> | <p>Low Labour Turnover rate and reasonable financial Returns indicate sustainability of the human resource</p> |
| 2 | Labour and management relations | <p>LA4 - Minimum notice periods regarding operational changes, including whether these are specified in collective agreements</p> | | | <p>Good Labour and management relations increase sustainability</p> |
| 3 | Occupational Health and safety | <p>LA5 - Percentage of total workforce represented in formal joint management-worker health and safety committees that help monitor and advise on occupational health and safety programs</p> | <p>BRR3 - Business should promote the well being of all employees</p> <p>BRR3.8- Businesses should create systems and</p> | <p>SDG3 – Ensure healthy lives and promote well-being for all at all ages</p> | <p>Care for Occupational health and healthy environment at the workplace will definitely will enhance productivity</p> |

| | | | | | |
|---|---------------------------------|---|---|---|--|
| | | <p>LA6- Type of injury and rates of injury, occupational diseases, lost days, and absenteeism, and total number of work-related fatalities, by region and by gender</p> <p>LA7- Workers with high incidence or high risk of diseases related to their occupation</p> <p>LA8- Health and safety topics covered in formal agreements with trade unions</p> | practices to ensure a harassment free workplace where employees feel safe and secure in discharging their responsibilities | | and people engagement, |
| 4 | Training and education | <p>LA9 - Average hours of training per year per employee by gender, and by employee category</p> <p>LA10 - Programs for skills management and lifelong learning that support the continued employability of employees and assist them in managing career endings</p> <p>LA11- Percentage of employees receiving regular performance and career development reviews, by gender and by employee category</p> | <p>BRR3.6 - Businesses should provide a workplace environment that is safe, hygienic humane, and which upholds the dignity of the employees. Business should communicate this provision to their employees and train them on a regular basis.</p> | <p>SDG4 - Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all</p> | Inclusive education for all levels of employees like contract labour, casuals etc. and training will help to create ownership and sense of responsibility towards sustainability. This will help for developing sustainable mindset of the employees |
| 5 | Diversity and equal opportunity | <p>LA12 - Composition of governance bodies and breakdown of employees per employee category</p> | <p>BRRP4 - Business Should respect the interests of and be</p> | <p>SDG5 - Achieve gender equality and empower all</p> | Diversity, – innovation, different thinking approaches, |

| | | | | | |
|---|--|--|--|--|--|
| | | according to gender, age group, minority group membership, and other indicators of diversity | responsive towards all stakeholders, especially those who are disadvantaged, vulnerable and marginalised BRR3.2- Businesses should provide and maintain equal opportunities at the time of recruitment as well as during the course of employment irrespective of caste, creed, gender, race, religion, disability or sexual orientation | women and girls | different abilities and ideas are generated and used and Gender equality – women employees - sincerity, speed accuracy amt of work skills gender help organisation leads to sustainability in the organisation Especially abled employees give new ideas and their special skills can be used. |
| 6 | Human right screening for important investment agreement | HR1 - Total number and percentage of significant investment agreements and contracts that include human rights clauses or that underwent human rights screening HR2 - Total hours of employee training on human rights policies or procedures concerning aspects of human rights that are relevant to operations, including the percentage of employees trained | BRR5 - Business should respect and promote human rights | SDG10 - Reduce income inequality within and among countries | Establishing and ensuring human rights principles |

| | | | | | |
|---|--|---|--|---|--|
| 7 | Non discrimination | HR3 - Total number of incidents of discrimination and corrective actions taken | BRR3.7- Businesses should ensure continuous skill and competence upgrading of all employees by providing access to necessary learning opportunities, on an equal and non-discriminatory basis. They should promote employee morale and career development through enlightened human resource interventions. | SDG5 - Achieve gender equality and empower all women and girls | For sustainability of Human Resource, there should not be discrimination |
| 8 | Freedom of Association and Collective Bargaining | HR4 - Percentage of security personnel trained in the organization's human rights policies or procedures that are relevant to operations | BRR3.1 - Businesses should respect the right to freedom of association, participation, collective bargaining, and provide access to appropriate grievance Redressal mechanisms. | SDG16 - Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build elective, accountable and inclusive institutions at all levels | Freedom ensure the sustainability of Human Resource |
| 9 | Child Labour | HR5 - Operations and suppliers identified as | Businesses | | Child Labour and Forced |

| | | | | | |
|----|--------------------|--|---|--|---|
| | | having significant risk for incidents of child labor, and measures taken to contribute to the effective abolition of child labor | should not use child labour, forced labour or any form of involuntary labour, paid or unpaid. | | Labour should not be appointed |
| 10 | Forced Labour | HR6- Operations and suppliers identified as having significant risk for incidents of forced or compulsory labor, and measures to contribute to the elimination of all forms of forced or compulsory labor | | | |
| 11 | Security Practices | HR7 - Percentage of security personnel trained in the organization's human rights policies or procedures that are relevant to operations | BRR5.7 – Businesses should not be complicit with human rights abuses by a third party. | | Security practices must be communicated to employees through proper channel |

The above table shows the ways the company can use to enhance sustainability of employees within the organisations. The company can refer these guidelines and principles for incorporating sustainability in business organisation even if they are not going to report their sustainability performance through sustainability Reports or Business Responsibility Report.

Conclusion

From the materiality analysis of BSE listed top five companies by market capitalization, hypothesis is proved that Human Resource is critical area for business organisation in the process of achieving sustainability.

The pathway to sustainability highlights the Human Resources contribution to Sustainability. WE can conclude that without active participation of Human Resource, sustainability cannot be implemented.

Various guidelines and Principles helpful for incorporating Sustainability in Business organisation listed and gave direction how to focus on sustainability of Human Resource. Thus the objectives of the study is fulfilled.

Labour relations, labour welfare, equal remuneration opportunities, Human Right protection and diversity are coming out to be key materiality issues across sectors. Therefore all the organisations shall focus their HR strategies and practices to manage the same effectively.

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BIORHYTHM FOR HR IN SAFETY MANAGEMENT

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Abstract

Human Resource Management (HRM) is a subsystem in the organization context but a system in its own context. One of the basic operational function of HRM is occupational safety and health (OSH).

It has emerged that HR has to move to another step in the area of safety and accident prevention, because of the increasing number of deaths and accidents at work. Though HR professionals are not expected to understand all the technical aspects of safety, they can play an important role in administrating, communicating, facilitating and championing the safety management.

As safety management is concerned with reducing accidents and controlling or eliminating hazards at the work place, accident prevention is a significant step towards safety improvement [8].

Presently safety programs emphasize on elimination of unsafe conditions at work. Yet, it was recognized by Henrich that 88% of all accidents are caused by the unsafe acts of people [1]. Errors made by the humans at work are often known as unsafe acts. An error in the human performance leads to accidents.

One of the key factors of performance improvement in safety management and accident prevention is to develop safety awareness.

Through this study the biorhythms model is tested and used as HR tool to determine lows in human performance. The HR professionals by using biorhythms can then reinforce "safety consciousness" at specified times to individuals at work for preventing accidents.

Key words : *Biorhythms, HR, Prevention, Accidents, Awareness.*

Background :

The world of work is changing. This change influence on the both human resources and their management. In this context area of safety and accident prevention is of great concern not only for the safety professionals but also to HR professionals because of the stringent safety regulations which impose major fines and even criminal conviction in the event of accidents at work.

Can the old strategies and structures of accident prevention cope with the newly emerging risks? Traditional methods of accident prevention and safety management to reduce human errors at work have relied on educational programs, safety training, engineering control, verbal communication and enforcement. Even then safety records have not improved. It is because traditional approach assumes a constant

level of human performance. Whereas, the human performance is variable and dynamic.

Hence, if emphasis can be placed on safety during low periods of human performance, this awareness itself may contribute to accident prevention.

Identifying all of the primary causes which influence performance at work is difficult and complex task because no single factor alone can be a perfect predictor of the human performance susceptibility towards making errors.

Biorhythms provides a potential HR management tool to aid in better decision making by considering the periods when a worker may be most susceptible to errors [10].

The objective and aim of the present study was to construct a more holistic model of biorhythms for accident prevention and safety management.

What is Biorhythms?

The word “Biorhythms” is derived from the Greek words, bios, meaning life, and rhythmos, meaning a regulated beat. The Biorhythms theory states that at the moment of birth, three cycles are initiated and recur consistently throughout Persons life. The three cycles have independent durations and influence the physical, emotional and intellectual states of the individual. Specific points in the cycle correspond to highs and lows in human performance. Biorhythms Predicts human performance by mean of understanding biological rhythms in human beings. [9].

Dr. Herman Swoboda (1873-1963) developed a mathematical analysis of the 23 days physical and 28 days emotional cycle in man. Alfred Teltscher found 33 day intellectual cycle [2] [3].

In any of three physical, emotional and intellectual cycles, the positive period is thought to represent the high performance interval and negative period is thought to represent a low performance phase.

When one’s energy changes from the high phase to low phase or vice versa, these days called “critical days”. Where, body’s system is not stable. This instability does not in itself cause accidents, but does have a mild negative influence on an individual, Which may increase the probability of an accident occurrence. This mild negative influence an individual may compensate by being aware at that period of time [3] [7].

So, biorhythm predictions may be very effective in motivating us to do the things we supposed to do.

Methods

The individual biorhythm calculation at any given time requires the date being investigated (here in present study date of accident). The age of person from the date of birth up to and including accident date needs to be determined. (i.e. date of birth of the person involved in the accident) [6].

Biorhythm analysis can be done by using readily available computation program on the internet.

Data collection

In the case of present study two different data sources were selected. One is IB automation company Pune where, from HR department date of birth for 286 people on roll was collected. Injury log of recorded incidences during 1st May 2016 to 31st Oct. 2017 is then observed.

Another data has been collected from Govt. ITI Latur from which data of 110 people on roll was collected. Injury log from 1st August 2016 to 31 Dec 2016 is then observed. Analysis for present study is carried out for this sample.

Analysis procedure

With the readily available software program on internet for computation of biorhythm cycles was used for data analysis.

Collected data was analyzed only for those accident cases [5] [6]. Where following requirements will comply:

- 1) That it was an accident
- 2) That it was a single source accident
- 3) That the victims birth date is accurate
- 4) That the accident date is correct.

In a sample of 110 cases studied from Govt. ITI Latur, 44 injuries occurred on biorhythm critical days. To find relationship between injury occurrence and biorhythm criticality with a 95% confidence level. A statistical technique chi-square goodness of fit test with student 't' distribution was adopted [3] [4].

Results

After analyzing data statistically it was found that in the sample observed for 110 cases from Govt. ITI Latur, calculated $0.31701 > \mu > 0.30117$, μ value does not lies within the sample 95% confidence interval, therefore a relationship between accident occurrence and biorhythm critical days has been established. Hence, null hypothesis: the accidents recorded on biorhythm critical days could have fallen on those days purely by chance may be rejected.

Conclusion

The results of the investigation, evaluations and testing involved in this study imply that approximately 40% of the accidents occur on accident prone days calculated according to biorhythms.

- 1) It is concluded that 40% of the time accidents do coincide with accident prone days or critical days as specified according to biorhythm theory.
- 2) It is concluded that uniformity in use of data is a requirement of biorhythm analysis.
- 3) It is concluded that 40% of the accidents occurring on accident prone days would indicate a successful amount of accident predictability through biorhythm evaluation.

Research to practice

Biorhythm theory may be applied by HR to reduce frequency of industrial accidents by informing employees of their biorhythms.

When employees are aware of their lows according to their biorhythms, they may exert extra cautions to prevent possible individual errors. Employees may be provided with biorhythm tables and supervisors may be informed on a daily basis of the accident prone days for the employees in their department, and in turn personally inform workers to exert appropriate caution.

The essence of biorhythm for HR management is establishing a set of procedures by which the biorhythmic accident prone periods of each individual at work may be considered and compensated for on an individual basis. Through this procedure the likelihood of worker- performance types of accidents may be minimized.

Limitations of the present study

- 1) Biorhythm alone cannot be a safety solution but it can be used along with other prevention strategies.
- 2) Time of birth is not considered in present study but it is essential for providing the most accurate representation of a biorhythm cycle.
- 3) The use of biorhythm could improve safety awareness by virtue of the “Hawthorne Effect”. The Hawthorne effect refers to any situation where the employee knows he is getting special attention.
- 4) Biorhythms are common to all individuals.
- 5) Only 110 cases collected from Govt. ITI was analyzed in the present study.

Summary

R. K. Anderson says biorhythm is strictly a tool, a diagnostic tool. It will not predict that you are going to have an accident. This is strictly a means of helping you overcome the biological stresses you are subject to[5].

The present study concludes on the same line, and proposing biorhythm as a HR tool for an accident prevention program.

There are many approaches to behavioral safety but the ultimate objective of all the approaches is to improve safety.

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A STUDY AND IDENTIFY THE PARAMETERS/FACTORS OF MANAGERIAL COMPETENCY, STEPS FOR COMPETENCY MAPPING AND COMPETENCY MODEL FOR MANAGERIAL PERSONNEL THROUGH LITERATURE REVIEW

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Abstract:

The aim of this paper is to study and analyze the factors or parameters of competencies required for managerial personnel by studying various literature reviews and study of Competency Mapping and the steps for competency model. This paper gives the various definitions of Competency, Managerial Competency and Competency Mapping. Managerial competencies are the major type of competency, which required for the success of an organization. Study of Managerial Competency and competency mapping helps to improve the performance to achieve the goals, vision and mission of an organization. It's also help for own development. Skill, Knowledge and ability/attitude are the major part of manager's competency. A competency model helps to identify the competencies needed for performing particular job, occupation or industry.

Key Words: Competence, Competency, Competency Mapping, Managerial Competency, Knowledge, Skills, Attitude/Ability, Communication skills.

INTRODUCTION

The term “competency” plays the important role in improving job performance and in turn qualifies human resources. Especially, in the high competition in corporate world. Now a day's higher level managers like heads and executives requires acquiring a new set of knowledge, skills, and attitudes to face the diversity and complication of the new business environment successfully. Thus the Managerial Competency plays an important role in the organizations.

Competency mapping helps to analyze Manager's or individual's Strength, Weakness, Opportunities and Treats (SWOT). It also helps them for their career development. Companies are looking for multi skill, multi knowledge higher level managers.

LITERATURE REVIEW:

2.1 Definitions:

2.1.1 Competence is the ability of an individual to do a job properly. The word competence is derived from Latin word “competere” which means ‘to be suitable/sufficiency of qualification’.

Woodruffe (1991) “A work – related concept that refers to area of work at which a person is competent”.

2.1.2 Competency/Competencies

Boyatzis (1982) defined competency as “A capacity that exists in a person that leads to behaviour that meets the job demands within parameters of organizational environment, and that, in turn brings about desired results.”

Hogg (1993) defined competency as “competencies are the characteristics of a manager that lead to the demonstration of skills and abilities, which results in effective performance within an occupational area. Competency also embodies the capacity to transfer skills and abilities from one area to another.”

“An underlying characteristic of a person which results in effective and/or superior performance on the job” (Klemp 1980)

“A cluster of related knowledge, skills and attitudes that affects a major part of one’s job (a role or responsibility), that correlates with performance on the job, that can be measure against well-accepted standards and that can be improved via training and development” (Parry 1996: conference in Johannesburg in 1995)

Spencer and Spencer (1993) “A competency is an underlying characteristic of an individual that is casually related to criterion-referenced effecting and/or superior performance in a job situation”.

The American Heritage Dictionary of English language (2000) provided a general description as “the state or quality of being properly or well qualified” (p. 376).

Hayes (1979)- “Competencies are generic knowledge motive, trait, social role or a skill of a person linked to superior performance on the job”.

Albanese (1989) – “Competencies are personal characteristics that contribute to effective managerial performance”.

UNIDO (2002) - “A Competency is a set of skills, related knowledge and attributes that allow an individual to successfully perform a task or an activity within a specific function or job”.

Rankin (2002) “Competencies are definition of skills and behaviours that organization expects their staff to practice in work”.

Competencies can be defined as “Skills, area of knowledge, attitudes and abilities that distinguish high performer. (Seema Sanghi 2012)

“A competency is a set of defined behaviors that provide a structured guide enabling the identification, evaluation and development of the behaviors in individual employees”.

“Competency is a skill, a personal characteristic or a motive demonstrated by various behaviours which contribute to outstanding performance in the job”.

Murale V. and Preetha R. “Competency can be defined as behavior (i.e. communication, leadership).

Ansfield (1997) “Underlying characteristic of person that results in a effective superior performance”.

Woodruffe (1991) “Competency: A person – related concept that refers to the dimension of behavior lying behind competent performer”.

Woodruffe (1991) "Competencies: Often referred as the combination of Competency and Competence".

2.1.3 Managerial Competency

Managerial Competencies are the competencies which are considered essential for employees with managerial or supervisory responsibility in any functional area including directors and senior posts.

F. Hroník defines a managerial competence as a "bunch of knowledge, skills, experience and characteristic, which support the achievement of the objective."

S. Whiddett and S. Hollyford define managerial competencies as "sets of behaviors that enable individuals demonstrate the effective performance of tasks within the organization".

C. H. Woodruff defines managerial competency as "a set of employee behaviors that must be used for the position that the tasks arising from this position competently mastered."

2.1.4 Competence Mapping:

"Competency mapping is a process of identifying key competencies for organization, the jobs and functions within it".

"Competency mapping is a process to identify and describe competencies that are most crucial to success in a work situation".

2.1.5 Competence Model:

"Competency Model is a behavioural job description that must be defined by each occupational function and each job".

Literature Review of Research Papers:

The researchers Murale V. and Preetha R., selected twenty middle level managers from an automobile wheel manufacturing plant at Kerala units. Each manager was rated by his/her three subordinates. The hypothesis for their study was:

- There exists a significant difference in the competency levels of leaders.
- There is a specific and positive correlation between competency traits of leaders and performance of the organization.

The instrument used to evaluate effectiveness was a six point scale in a continuum/scale which 1 denotes 'a participant does not play the role' and 6 denote 'participant plays role extraordinarily well.' SPSS 13 software was used to derive the manager's score on an assigned role or competency. Following competencies and roles were studied:

"A Contextual Sensitivity Competencies", "Initiative Management Competencies", "Innovations-related Competencies", "Resilient Problem Solving Competencies", "Task Execution Competencies", and "Interpersonal and Leadership related Competencies" ^[1]

Roles studied by researchers in their research are 1) Strategic Managerial Roles 2) Operation related Managerial Role 3) Leadership Role ^[1]

The researchers test hypothesis 1 by one sample t Test; hypothesis 2 by Correlation Analysis. They found that there is a strong correlation between managerial competencies and role effectiveness at 95 percentage significance level. Managerial competencies and the roles are highly correlated. Further study finds that the managers

are not much aware about their responsibilities. Managers have somewhat leadership competencies and contextual sensitivity competencies. Managers can able to manage business complexities in their organizations. They are weaker in innovation and initiative management competencies.

Learning: The study helped the researcher to understand that manager must have set of behavioural and technical competencies. The study also proves that the technical abilities and experience are not enough for success or performance but knowledge, skills and behaviour or attitude are also important.

The limitations of the study (Research Gaps):

- The study is limited to only the managers a Tyre manufacturing factory in Kerala. (**Geographical and sample limitation**) The competencies of managers differ from organization to organization and the result may or may not applicable to other organizations.
- In this study, managers are not allowed to assess their own competencies.
- The data is collected from the subordinates about the competencies of managers and not from the seniors. The only seven competencies were taken in this study^[1]. So identifying other competencies can be done in future research.

The researchers in their research “Key Managerial Competencies and Competency Models in Industrial Enterprises” [2012] highlighted the issues of managerial competencies and competency model in industrial enterprises. According to researchers the basic management competencies includes analysis, communication, creativity, decision-making^[1] etc. The competency like awareness of international business deals may be the critical factor for determining job success and high performance. In this research paper **researchers classify management competencies into three groups: general, specific and key (crucial). General managerial competencies** ^[2] give quality work and managers must have it in any management position. **Specific management competencies** ^[2] include the competencies which are required to fulfill the standard performance.

The competencies, which manager gives more importance are the **Key management competencies**^[2]. These enhance employee performance. In this research the researchers give four pillars of managerial Competencies. These are

- 1. Knowing the Organization:** this includes developing knowledge and understanding the policies. These are the competencies related to policies, procedures, vision, mission, goals, strategic plan etc. ^[2]
- 2. Leading and managing people** consists the skills for providing feedback, direction to staff, satisfaction of customers, and creating healthy environment for encouraging performance and solve the problems. The skills comes under this pillar are performance appraisal, team building, staff development, collaboration, customer relations etc. ^[2]
- 3. Managing Resources** includes planning skills, project and budget management, change management, information management, performance assessment of an organization etc. ^[2]

4. Communicating effectively includes smooth communication with staff and customers, listening, effective presentation, written communication meetings etc.^[2]

The researchers further studied the Competency model. According to them a competency model is a collection of competencies that are required for successful performance on the job. Competency model is the combination of skills, knowledge and other personality characteristics. The competency model is designed by identifying core or key competencies that are essential for all employees. Researchers gave the eight steps for creating competency model^[2].

Learning: Researchers conclude that the competencies support and contribute to organization's success, planning, learning and development for employees. For organization competencies provide valuable guidelines on the skills and talent pool within the organization. When organizations apply competencies to develop and select individuals then competencies will help to avoid collateral damage, recruiting cost, low morale, dissatisfied customers and help in success of the organization.

Future study: Researcher suggested to identify competencies for industries having multicultural environment.

Researcher Yuvaraj, R., gave eight definitions of Competency. These definitions are stated by Boyatzis (1982), UNIDO (2002), RANKIN (2002), ANSFIELD (1997), WOODRUFEE (1991), ALBANESE (1989), HAYES (1979)^[3]. All these definitions are given in this paper and also taken for the thesis of Doctoral research. The study identifies the skill level of workers to analyze the training needs. Study also provides insight to multi-skill level of staffs. The reasons for the competency mapping are given in the paper.

Need of study: Researcher given benefits of competency model for the company, managers and employees. For managers Competency model is useful for identifying performance level, provide objectives for performance standards, for good communication, developing good relationship between employer and employee and career related issues can be reduced.

Researcher gave role of and steps involved in Competency Mapping. Ten steps were given in the research paper^[3].

Research Methodology: The main objective of research was to map technical competencies for the employees in different departments of a Textile Machinery Manufacturing Industry. The research methodology used was descriptive research since it's based on survey and facts finding. Census survey was adopted as sampling method. The entire population was taken for study. The sample unit was departments of a Textile Machinery Manufacturing Industry. Place is not mentioned. All 1400 workmen at different units & departments were taken as sample size. The workmen from Production and service departments were considered for the research. Both primary and secondary data used for collecting data. Questionnaires and discussion are the tools used for primary data collection. The instrument was developed from literature review and based on three areas namely knowledge, ability and attitude. Learning: Researcher analyzed that the Competency Mapping is a process of identifying key competencies. Competency is a set of knowledge, skills and attitudes required to perform the job. It's important and essential for the organization. Competency mapping identifies individual

strengths and weaknesses for career development. The gap between existing competencies to the required competencies identifies the competency training need. Skill development is one of the most accurate tool for identifying job and behavioural competencies of an individuals. Core competency is the pillar of individuals.

Future research: Researcher suggested the area of further research in other units of organizations and to the apprenticeship trainees.

Researcher gave history of competencies and definitions in literature review section. He covered the definitions of Hogg (1989), Klemp (1980), Boyatzis (1982), Unido (2002), Rankin (2002), Ansfield (1997), Albanese (1989) and Hayes (1979)^[4].

Need of study: Researcher elaborate benefits of competency model for the company, managers and employees. Competency mapping is useful for managers in identifying performance level, performance standards, good communication, improving relationship between employer and employee and reduce the career related issues.

In this paper researcher focused on role and ten steps involved in Competency Mapping^[4]. The categories for competencies given are strategy, relationships, innovation, leadership, risk-taking, decision making, and emotional intelligence.

Research Methodology: The main objective of research was to map technical competencies for the employees in different departments of a Cement Industry. The type of research was descriptive. The sampling method used was Census survey, thus no sampling technique was used. The entire population was taken for study. The sample unit was departments of a Cement Industry. Place of the research carried is not given. The sample size was all 1450 workmen from different units & departments. The data collection method was through primary and secondary data. Questionnaires and discussion are the tools used for collecting primary data. The instrument was developed from literature review and based on three areas namely knowledge, ability and attitude.

Learning: Researcher analyzed four dimensions of competency mapping by reporting manager and PA committee. These dimensions are i) Think the business, ii) Deliver results, iii) Energize people, iv) Act as a role model. Each dimension consist two to four competencies. Research analyzed that the employees has high potential to grow in case of reporting manager and in case of PA committee employees doesn't have required potential and competency development needed. The overall potential of the employees for growth is high as per combined average of competency dimension given by reporting manager and PA committee. Thus an employee has potential to grow but needs development. Skill development is one of the accurate tools to identify core, job and behavioural competencies.

Future research: Researcher suggested the area of further research in other units of industries.

Literature review studied by the researcher Chandiok, Suniti, focused on Competency Mapping, Competency development, IT Industry in India, Recent Developments in IT Industry in India, Big four IT companies in India. These were TCS, Wipro, Infosys, and HCL Technologies. Major Hubs in India are: Chennai, Bangalore, Thiruvananthapuram, Mubai, Pune, Delhi, The National Capital Region (consists Delhi, Gurgaon, and Noida), Kolkata. Researcher studied about the challenges of HR in the Indian IT

Industry, Development of Competency Model. The paper is an attempt to develop Competency Mapping Model for HR professionals in IT industry.

Research Methodology: Researcher collected the primary data from the managers, professionals, supervisors, and production heads. They are asked to rate the job related competencies and list the required competencies to perform HR roles. The Competency Model was developed with the outcomes of training need identification.

The objectives are: To map the competencies for HR professionals, to identify the training needs of HR professionals, and to find the ranking of competencies.

The HR professional's competencies are divided into five Competency Clusters: Leadership, Business, Analytical and Interpersonal^[5]. Researcher gave the proposed research Competency Model for Training need Assessment. The training needs of HR professionals can be identified by determining the difference between current and expected competencies levels. Researcher given the steps for Competency Mapping^[5]. Researcher doesn't mentioned about the sampling method he used.

Learning: Competencies and Competency Models are heart of HR. The current and future competencies can be identified which helps to meet the job requirements and need of employers. There is a strong and positive relationship between competencies and job performance. Competency Model is a viable tool to identify current and future workforce and retain the skilled workers.

Scope for further research: According to researcher the research required on to examine different factors of competency model for different needs of the industry.

SCOPE OF STUDY

This study is opinion survey, which helps researcher for the further study in his Doctoral research. Also this will help other researchers for their research.

RESEARCH METHODOLOGY

4.1 Research design: Case study method

4.2 Objectives of the Study

- 1) To identify the parameters/factors of managerial competencies through five Literature Reviews.
- 2) To understand the steps for Competency Mapping.
- 3) To study steps for competency model.

4.3 Sampling Technique

Sampling Plan:-

- | | | |
|------------------|---|--|
| i) Sample Method | : | Non Probability Convenience Sampling |
| ii) Sample Size | : | 05 Research Papers are taken for this paper. |

4.4 Data Collection Method

Data are facts, figures and other relevant material, which are either past or present, serving as basis for the study & analysis. Data constitutes the subject matter of analysis the relevance; adequacy and reliability of data determine the quality of study.

Secondary data

Secondary data measures data that is already available i.e. they refer to data which have already collected and analyzed by someone else.

When the researcher utilizes secondary data, then he has to look into various sources from where he can obtain them.

The secondary data collection methods used for this work are:-

- Journals
- Proceedings

LIMITATIONS

- The sample was restricted to the five literature reviews i.e. research papers.

ANALYSIS OF LITERATURE REVIEW

6.1 Parameters/factors that are identified for managerial competencies for managerial personnel are as follows:

From Research Paper No.1

The basic management competencies includes analysis, communication, creativity, decision-making^[1] etc.

“A Contextual Sensitivity Competencies” Which consists, quickly identification of the structure of the organization/system by managers, knowledge of the people in the organization, analyzation of trouble, identification of Do’s and Don’ts of an organization, monitor the situation around him, knack for doing right thing in right time, influence the people^[1].

“Initiative Management Competencies” consists manager likes new task and settings with new people, easily and quickly complete new project, makes influential presentations for new projects/activities, gives credit to people, to grab the opportunities in right time, builds an effective team to complete the ongoing project/activity^[1].

“Innovations-related Competencies” these includes whether manager keeps in touch with opportunities and major developments for innovation, can able to solve the difficult problems, use offbeat or novel solutions in tough problems, can timely introduce changes or innovations^[1].

“Resilient Problem Solving Competencies” consists that manager can quickly way out from disheartened in a very difficult situation, can take failure or criticism in positive way, never scared by big bosses, can utilize scarce resources neatly, by systematic analysis can bring order in misery situations, can generate several alternatives before implementation, can take decision by thinking through various courses of action, can map all steps of a course of action^[1].

“Task Execution Competencies” consists of manager put his/her best to come head of others, can play his/her role well to get the job done, like challenges, can set self goals/targets and deadlines, ready to take/accept responsibility, want to be on top, known the tasks for getting them effectively^[1].

“Interpersonal and Leadership related Competencies includes” includes can manager provides right guidance when things are going wrong, can understand other persons, is open with other person for dealing, other person approaches him during their emotional stress, able to keep his/her view clearly and persuasively, is he/she good listener and had good patience, can judges people after understanding them fully, able to share his/her thoughts and feelings calmly and correctly to others, ready to accept suggestions and opinions of colleagues at work place, like and enjoys close working relationships and easy with others, for a tough task he/she can inspire others and involve them, able to visualize big goals and motivate people for a tough task^[1].

From Research Paper No.2

According to researchers the basic management competencies includes analysis, communication, creativity, decision-making^[2]. In this research paper **researchers classify management competencies into three groups: general, specific and key (crucial). General managerial competencies^[2]** give quality work and managers must have it in any management position. **Specific management competencies** include the competencies which are required to fulfill the standard performance^[2].

The competencies, which manager gives more importance are the **Key management competencies**. These enhance employee performance. In this research the researchers give four pillars of managerial Competencies. These are

- 1. Knowing the Organization:** this includes developing knowledge and understanding the policies. These are the competencies related to policies, procedures, vision, mission, goals, strategic plan etc^[2].
- 2. Leading and managing people** consists the skills for providing feedback, direction to staff, satisfaction of customers, and creating healthy environment for encouraging performance and solve the problems. The skills comes under this pillar are performance appraisal, team building, staff development, collaboration, customer relations etc^[2].
- 3. Managing Resources** includes planning skills, project and budget management, change management, information management, performance assessment of an organization etc^[2].
- 4. Communicating effectively** includes smooth communication with staff and customers, listening, effective presentation, written communication meetings etc^[2].

Steps for Competency Mapping are as follows:

In the Research Paper No. 3 & 5 the steps given are: 1) Identify the department for mapping. 2) Identify the structure of the organization and select the grades & levels. 3) Job Description from Individuals and departments. 4) Conducting Semi-Structured interviews. 5) Collecting interview data's. 6) Classify the required Skill list. 7) Identify the skill levels. 8) Evaluate identified competencies and skill levels with immediate superiors and other heads of concerned departments.9) Preparation of Competency calendar, and 10) Mapping of Competencies^{[3] [5]}.

In the Research Paper No. 4 the steps given are: 1) Job Description from individuals and HR department. 2) Preparation of Questionnaires & collecting feedback from respondents. 3) Classify the required Skill list & identify the skill levels. 4) Evaluate

identified competencies and skill levels with immediate superiors and other heads of concerned departments. 5) Find out the deviation of identified competency level from required competency level. 6) Mapping of Competencies, and 7) Development of competency model for bridging the gap, leading to Training Need Assessment^[4].

The steps for competency model given in the research papers are

In the research paper 2 the researchers studied the Competency model. According to them a competency model is a collection of competencies that are required for successful performance on the job. Competency model is the combination of skills, knowledge and other personality characteristics. The competency model is designed by identifying core or key competencies that are essential for all employees. Researchers gave the eight steps for creating competency model^[2].

1) Set the precise objectives of the project, 2) Defining the scope of the project and the target group. 3) Choose an approach, 4) Assemble Project team, 5) Identify the different levels of performance at a given position. 6) Collect and analyze data, 7) Verify competency model, and 8) Prepare a competency model for use.

In the research paper 3, three steps are given for Competency Model are 1) Personal Character (Intent), 2) Behaviour (Action), and Performance (Outcome)^[3].

FINDINGS FROM LITERATURE REVIEW

1. The parameters/factors for managerial competencies are analyzed from two research papers. The categories for competencies are strategy, relationships, innovation, leadership, risk-taking, decision making, and emotional intelligence^[4]. The HR professional's competencies are divided into five Competency Clusters: Leadership, Business, Analytical and Interpersonal^[5].
2. The steps for Competency mapping are different for different organizations and changes according to department wise. The dimensions of competency mapping are i) Think the business, ii) Deliver results, iii) Energize people, iv) Act as a role model^[4].
3. Research carried in the following Industries:
 - a) An automobile wheel manufacturing plant at Kerala units.
 - b) In different departments of a Textile Machinery Manufacturing Industry.
 - c) In different departments of a Cement Industry.
 - d) Tyre manufacturing factory in Kerala IT Industry in India, and
 - e) TCS, Wipro, Infosys, and HCL Technologies.
4. The populations selected in these researches are Middle level managers, managers, professionals, supervisors, and production heads.

CONCLUSION

Competency mapping is useful for managers in identifying performance level, performance standards, good communication, improving relationship between employer and employee and reduce the career related issues. The identified parameters/factors of managerial competencies are further useful for collecting primary data through Questionnaire and Interview.

FURTHER RESEARCH: Required to review some more literatures for studying parameters / factors of managerial competencies for designing questionnaire.

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TO STUDY THE ASSOCIATION BETWEEN EMPLOYEE ENGAGEMENT AND PROMINENT FACTORS AFFECTING EMPLOYEE ENGAGEMENT AT TETRA PAK, PUNE

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ABSTRACT

Employee engagement called worker engagement is a business management concept.

An "engaged employee" is the one who is fully involved in, and enthusiastic about their work, and thus will act in a way that furthers their organization's interests.'

Employee engagement is the level of commitment and involvement an employee has towards their organization and its values. An engaged employee is aware of context, and works with colleagues to improve performance within the job for the benefit of the organization.

It is a positive attitude held by the employees towards the Organization and its values.

The paper focuses to find out whether there is any association between Employee Engagement and factors affecting Employee Engagement.

Key words – Employee engagement, engaged, actively disengaged.

INTRODUCTION TO EMPLOYEE ENGAGEMENT

According to *Scarlett Surveys*, "Employee Engagement is a measurable degree of an employee's positive or negative emotional attachment to their job, colleagues and organization which profoundly influences their willingness to learn and perform at work". Thus, engagement is distinctively different from employee satisfaction, motivation and organizational culture. *Business Dictionary* defines employee engagement as, "Emotional connection an employee feels toward his or her employment organization, which tends to influence his or her behaviors and level of effort in work related activities."

(<http://www.businessdictionary.com/definition/employee-engagement.html>)

LITERATURE REVIEW

Engagement at work was conceptualized by Kahn, (1990) as the 'harnessing of organizational members' selves to their work roles. In engagement, people employ and express themselves physically, cognitively, and emotionally during role performances.

The second related construct to engagement in organizational behavior is the notion of flow advanced by Csikszentmihalyi (1975, 1990). Csikszentmihalyi (1975) defines flow as the 'holistic sensation' that, people feel when they act with total involvement. Flow is the state in which there is little distinction between the self and environment. When individuals are in Flow State little conscious control is necessary for their actions. Engagement is most closely associated with the existing construction of job

involvement (Brown 1996) and flow (Csikszentmihalyi, 1990). Job involvement is defined as 'the degree to which the job situation is central to the person and his or her identity (Lawler & Hall, 1970). Kanungo (1982) maintained that job involvement is a 'Cognitive or belief state of Psychological identification'. Job involvement is thought to depend on both need saliency and the potential of a job to satisfy these needs. Thus job involvement results from a cognitive judgment about the needs satisfying abilities of the job. Jobs in this view are tied to one's self image.

ASPECTS OF EMPLOYEE ENGAGEMENT

Three basic aspects of employee engagement according to the global studies are:-

- The employees and their own unique psychological makeup and experience
- The employers and their ability to create the conditions that promote employee engagement
- Interaction between employees at all levels.

Thus it is largely the organization's responsibility to create an environment and culture conducive to this partnership, and a win-win equation.

CATEGORIES OF EMPLOYEE ENGAGEMENT

According to the Gallup there are different types of people:-

1. **Engaged-** "Engaged" employees are builders. They want to know the desired expectations for their role so they can meet and exceed them. They're naturally curious about their company and their place in it. They perform at consistently high levels. They want to use their talents and strengths at work every day. They work with passion and they drive innovation and move their organization forward.
2. **Not Engaged-** Not-engaged employees tend to concentrate on tasks rather than the goals and outcomes they are expected to accomplish. They want to be told what to do just so they can do it and say they have finished. They focus on accomplishing tasks vs. achieving an outcome. Employees who are not-engaged tend to feel their contributions are being overlooked, and their potential is not being tapped. They often feel this way because they don't have productive relationships with their managers or with their coworkers.
3. **Actively Disengaged-**The "actively disengaged" employees are the "cave dwellers." They're "Consistently against Virtually Everything." They're not just unhappy at work; they're busy acting out their unhappiness. They sow seeds of negativity at every opportunity. Every day, actively disengaged workers undermine what their engaged coworkers accomplish. As workers increasingly rely on each other to generate products and services, the problems and tensions that are fostered by actively disengaged workers can cause great damage to an organization's functioning.

Objective of the study –

1. To identify prominent factors that affect Employee Engagement at Tetra Pak, Pune.
2. To study the association between Employee Engagement and the identified prominent factors of Employee Engagement.

Research Methodology –

- **Data collection –**
Primary Data was collected through structured Questionnaire.
Secondary data was collected through Literature Review.
- **Sample –**
Out of 120 employees from Processing Department, sample selected was 35 employees.
- **Sampling Method –** Convenience sampling method was adopted to select sample.
- **Data analysis and interpretation –** Data was analyzed using Chi-Square Test of contingency

Statement of Hypothesis –

- There is no association between Employee Engagement and prominent factors of Employee Engagement.

FINDINGS -**Factors Leading to Employee Engagement at Tetra Pak, Pune-**

Based on the data collected through questionnaire following critical factors were identified which lead to Employee engagement at Tetra Pak,Pune.

1. Equal Opportunities and Fair Treatment.
2. Performance appraisal.
3. Pay and Benefits.
4. Health and Safety measures.
5. Job Satisfaction.
6. Free flow of Communication.
7. Co-operation.

Hypothesis testing –**1] Chi square test for Employee Engagement and Equal Opportunities and Fair Treatment:**

Purpose: To study if there is any relationship between **Employee Engagement and Equal Opportunities and Fair Treatment**

H₀ : There is no association between **Employee Engagement and Equal Opportunities and Fair Treatment.**

Statistical test : Chi square test of contingency.

Level of significance (α): 0.05

Case Processing Summary

| | Cases | | | | | |
|--|-------|---------|---------|---------|-------|---------|
| | Valid | | Missing | | Total | |
| | N | Percent | N | Percent | N | Percent |
| Employee Engagement * Equal opportunities and fair treatment | 35 | 100.0% | 0 | .0% | 35 | 100.0% |

Chi-Square Tests

| | Value | df | Asymp. Sig. (2-sided) |
|---------------------------------|-------------------|----|--------------------------|
| Pearson Chi-Square | .417 ^a | 2 | .012 |
| Likelihood Ratio | .420 | 2 | .010 |
| Linear-by-Linear Association | .290 | 1 | .590 |
| N of Valid Cases | 35 | | |

Findings:

$\chi^2 (2) = .417$, P value < 0.05.

Since the P value is less than level of significance (0.05) Null is rejected and it is concluded that there is a significant relationship between **Employee Engagement and Equal Opportunities and Fair Treatment**.

2]Chi square test for Employee Engagement and Performance Appraisal :

Purpose: To study if there is any relationship between **Employee Engagement and Performance Appraisal**.

H₀ : There is no association between **Employee Engagement and Performance Appraisal**.

Statistical test : Chi square test of contingency.

Level of significance (α): 0.05

Case Processing Summary

| | Cases | | | | | |
|--|-------|---------|---------|---------|-------|---------|
| | Valid | | Missing | | Total | |
| | N | Percent | N | Percent | N | Percent |
| Employee Engagement * Performance Appraisal | 35 | 100.0% | 0 | .0% | 35 | 100.0% |

Chi-Square Tests

| | Value | df | Asymp. Sig. (2-sided) |
|---------------------------------|--------------------|----|--------------------------|
| Pearson Chi-Square | 2.613 ^a | 3 | .055 |
| Likelihood Ratio | 2.732 | 3 | .035 |
| Linear-by-Linear Association | 2.066 | 1 | .151 |
| N of Valid Cases | 35 | | |

Findings:

$\chi^2 (3) = .2.6139$, P value < 0.05.

Since the P value is less than level of significance (0.05) Null is rejected and it is concluded that there is a significant relationship between **Employee Engagement and Performance Appraisal**.

3] Chi square test for Employee Engagement and Pay and benefits:

Purpose: To study if there is any relationship between **Employee Engagement and Pay and benefits**

H₀ : There is no association between **Employee Engagement and Pay and benefits**.

Statistical test : Chi square test of contingency.

Level of significance (α): 0.05

Case Processing Summary

| | Cases | | | | | |
|--------------------------|-------|---------|---------|---------|-------|---------|
| | Valid | | Missing | | Total | |
| | N | Percent | N | Percent | N | Percent |
| Employee Engagement * | 35 | 100.0% | 0 | .0% | 35 | 100.0% |
| Pay and Benefits | | | | | | |

Chi-Square Tests

| | Value | df | Asymp. Sig. (2-sided) |
|---------------------------------|--------------------|----|--------------------------|
| Pearson Chi-Square | 4.425 ^a | 3 | .019 |
| Likelihood Ratio | 4.441 | 3 | .018 |
| Linear-by-Linear Association | .424 | 1 | .515 |
| N of Valid Cases | 35 | | |

Findings:

$\chi^2 (3) = 4.425$, P value < 0.05.

Since the P value is less than level of significance (0.05) Null is rejected and it is concluded that there is a significant relationship between **Employee Engagement and Pay and benefits**.

4] Chi square test for assistance from Employee Engagement and Health and Safety Measures:

Purpose: To study if there is any relationship between **Employee Engagement and Health and Safety Measures**

H₀ : There is no association between assistance from **Employee Engagement and Health and Safety Measures**

Statistical test : Chi square test of contingency.

Level of significance (α): 0.05

Case Processing Summary

| | Cases | | | | | |
|---|-------|---------|---------|---------|-------|---------|
| | Valid | | Missing | | Total | |
| | N | Percent | N | Percent | N | Percent |
| Employee Engagement * Health and Safety Measures | 35 | 100.0% | 0 | .0% | 35 | 100.0% |

Chi-Square Tests

| | Value | df | Asymp. Sig. (2-sided) |
|---------------------------------|-------------------|----|--------------------------|
| Pearson Chi-Square | .286 ^a | 2 | .047 |
| Likelihood Ratio | .301 | 2 | .040 |
| Linear-by-Linear Association | .162 | 1 | .687 |
| N of Valid Cases | 35 | | |

Findings:

$\chi^2 (2) = .286$, P value < 0.05.

Since the P value is less than level of significance (0.05) Null is rejected and it is concluded that there is a significant relationship between **Employee Engagement and Health and Safety Measures**.

5] Chi square test for Employee Engagement and Job Satisfaction:

Purpose: To study if there is any relationship between **Employee Engagement and Job Satisfaction**.

H₀ : There is no association between **Employee Engagement and Job Satisfaction**.

Statistical test : Chi square test of contingency.

Level of significance (α): 0.05

Case Processing Summary

| | Cases | | | | | |
|---|-------|---------|---------|---------|-------|---------|
| | Valid | | Missing | | Total | |
| | N | Percent | N | Percent | N | Percent |
| Employee Engagement * Job Satisfaction | 35 | 100.0% | 0 | .0% | 35 | 100.0% |

Chi-Square Tests

| | Value | df | Asymp. Sig. (2-sided) |
|---------------------------------|--------------------|----|--------------------------|
| Pearson Chi-Square | 4.900 ^a | 3 | .049 |
| Likelihood Ratio | 5.511 | 3 | .038 |
| Linear-by-Linear Association | 4.685 | 1 | .030 |
| N of Valid Cases | 35 | | |

Findings:

$\chi^2 (3) = 4.900$, P value < 0.05.

Since the P value is less than level of significance (0.05) Null is rejected and it is concluded that there is a significant relationship between **Employee Engagement and Job Satisfaction**.

6] Chi square test for assistance from Employee Engagement and Free flow of communication:

Purpose: To study if there is any relationship between **Employee Engagement and Free flow of communication**.

H₀ : There is no association between **Employee Engagement and Free flow of communication**.

Statistical test : Chi square test of contingency.

Level of significance (α): 0.05

Case Processing Summary

| | Cases | | | | | |
|--|-------|---------|---------|---------|-------|---------|
| | Valid | | Missing | | Total | |
| | N | Percent | N | Percent | N | Percent |
| Employee Engagement * Free flow of Communication | 35 | 100.0% | 0 | .0% | 35 | 100.0% |

Chi-Square Tests

| | Value | df | Asymp. Sig. (2-sided) |
|---------------------------------|-------------------|----|--------------------------|
| Pearson Chi-Square | .972 ^a | 3 | .040 |
| Likelihood Ratio | 1.323 | 3 | .024 |
| Linear-by-Linear Association | .041 | 1 | .839 |
| N of Valid Cases | 35 | | |

Findings:

$\chi^2 (3) = .972$, P value < 0.05.

Since the P value is less than level of significance (0.05) Null is rejected and it is concluded that there is a significant relationship between **Employee Engagement and Free flow of communication**.

7] Chi square test for Employee Engagement and Cooperation:

Purpose: To study if there is any relationship between **Employee Engagement and Cooperation**

H₀ : There is no association between **Employee Engagement and Cooperation**.

Statistical test : Chi square test of contingency.

Level of significance (α): 0.05

Case Processing Summary

| | Cases | | | | | |
|--------------------------------------|-------|---------|---------|---------|-------|---------|
| | Valid | | Missing | | Total | |
| | N | Percent | N | Percent | N | Percent |
| Employee Engagement * Cooperation | 35 | 100.0% | 0 | .0% | 35 | 100.0% |

Chi-Square Tests

| | Value | df | Asymp. Sig. (2-sided) |
|---------------------------------|-------------------|----|--------------------------|
| Pearson Chi-Square | .890 ^a | 2 | .041 |
| Likelihood Ratio | .902 | 2 | .037 |
| Linear-by-Linear Association | .822 | 1 | .365 |
| N of Valid Cases | 35 | | |

Findings:

$\chi^2 (2) = .890$, P value < 0.05.

Since the P value is less than level of significance (0.05) Null is rejected and it is concluded that there is a significant relationship between **Employee Engagement and Cooperation**.

Conclusion

Based on the data collected and analyzed, it was concluded that prominent factors like Equal Opportunities and Fair Treatment, Performance appraisal, Pay and Benefits, Health and Safety measures, Job Satisfaction, Free flow of Communication and Cooperation affect the employee engagement in Tetra Pak, Pune. Based on hypothesis testing, it was clear that there is a significant association between Employee Engagement and prominent factors of Employee Engagement at Tetra Pak, Pune.

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EXECUTIVE COACHING - A NEW ERA TECHNIQUE TO UP SKILL EXECUTIVES TO COPE UP WITH THE INCREASINGLY DYNAMIC WORLD

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Abstract :

Business Environment is rapidly changing which is accelerated by rapid changes in Technology & other factors. Executives experience tremendous stress since they find it difficult to keep pace with it. They need support to Up Skill them to enable them to cope up with rapidly changing Business Environment. Executive Coaching is considered as very appropriate and effective Learning Intervention to support Executives to face above mentioned challenge.

Researcher has conducted systematic Research to assess effectiveness of use Executive Coaching Engagement (ECE) and level of satisfaction of Executives about the same to address agenda mentioned above. The Study reveals that majority of Executives are satisfied about Learning Intervention of ECE to effectively face challenge of up skilling themselves to cope with rapidly changing Business Environment.

Keywords: *Rapid changes – Business Environment – Executives stressed - Challenge – to cope up with – Executive Coaching Engagement – Satisfaction Level of Executives.*

A) Introduction : -

Change is constant – that was past. Today the thing is – rapid change is what is constant. Reason is simple. The thing that changes other things – technology, it itself is changing rapidly. Who knows by the time the words like Big Data, Data Analytics, and Artificial Intelligence Internet of Things etc., are typed here, those might have become outdated! Technological obsolescence is happening at such a rapid pace that things have become absolutely short-living. If at all some job is there that has become difficult, it is of technology forecasting. What technology will emerge tomorrow and more importantly how much would be its life span, are 2 most difficult things to predict.

Management science is a field that has got no insulation for protecting itself from the effects of these changes. Technology is widely used in management in both forms - the physical technology and the skill (or the soft) technology. Moreover, the business world that is required to be managed is getting so much integrated that a problem with the DOW stock market index has immediate reflection in the BSE & NSE Sensex as well. Dynamism in the business world can be attributed to –

- Growing Urban Population
- Global Warming
- Demographic Changes

- Emerging Markets Gain Power
- Advances in Technology

This is accelerating speed of change beyond comprehension of Executives. In constantly changing business environment, Executives experience unprecedented stress due to pressure of remaining relevant. Many find their weaponry of Old Learnings is just insufficient to fight War for Existence in 'Tomorrow', with eminent fear of Extinction. Such Executive seek help for understanding '**how to Up- Skill themselves to remain relevant in future in such environment**'.

Traditionally the Leadership Population is mostly dominated by Baby Boomers who have nurtured their ideologies based on their experiences of stable technologies, markets and economies. Hence they believe in controlling and contributing Enterprise through better Planning, Organizing & Execution etc. They believe in working in structured segments and Functional silos. They pride in having long foresight and predictions which helps in execution of Plans and mitigates predicted risk. Their approach and responses towards exploiting changes in Technologies and Markets, are tardier. They are slower in innovating and creating different experiences to suit changing test of customers.

However in reality with accelerated growth of Technology and Social Network, choice of customers and employees, is changing fast, beyond comprehension of majority of Decision Makers in Business. Many established business are losing their ground and becoming extinct. New Business Models, Organization Structures and Employee Roles are emerging fast and vanishing faster. Hardly anything can be predicted and planned. Forecasting is hazier beyond few months. Business Leaders find themselves clue less and helpless in such situation. Leaders are required to be light foot, agile and non-assuming to survive. They are required to unlearn fast and simultaneously learn faster, to remain relevant in changing Business Environment.

Many Executives who are already caught up in this tight situation, struggle hard firefighting and damage controlling and wonder how to find time and peace of mind to learn new skills to face future challenges. It is something like repairing/replacing engine of airplane while continuing the flight to reach the destination.

In this context organizations are searching and experimenting with various learning interventions to support their executives to ensure survival of business entity. One of the popular and effective learning Intervention is **Executive Coaching**.

B) How Executive Coaching works:

1. What is Executive Coaching?

Executive Coaching is an individualized developmental process where a Coach, who is an experienced professional, work with Coachee to identify ways in which Coachee can hone strengths and deploy them to their maximum benefit. A Coach helps Coachee to discover path of improvement in Performance Behavior. Executive Coaching takes Coachee from where he/she is, to where Coachee want to be...and the journey is transformational. Executive Coaching is a contractual, time-bound relationship that is non-prescriptive and non-directive in nature. It is a process that allows Coachee to

discover, acquire, develop and use the power within himself/herself to bring about constructive change.

2. How it helps Coachee:

Given its one-on-one nature and the safe space it creates for honest exploration, reflection and change, it has the ability to provide highly customized development like no other intervention. Coaching helps to develop capabilities and new ways of thinking that will have a lasting impact. It is 'learning how to learn' which means developing skills and habits of self-reflection that will ensure that the process of learning continues even after the Coaching engagement ends.

The Executive Coaching Engagement normally deployed for following 3 Broad Agendas:

- Skill Development (Up Skilling)
- Business Development
- Leadership Development

3. What are stages of Executive Coaching Engagement (ECE):

- Awareness - Exactly knowing current 'ground zero' position of Coachee which progresses through Life Story, sharing, Psychometric Test and other Instruments, 360 Degree Feedback etc.
- Visioning Exercise – Clearly understanding Problem and finalization of Broad Agenda and Goal of improvement in Performance Behavior. Clarity in terms of scope, dimension, measurement, time frame, how it will look/test/perceived as and parameters of success etc.
- Developing Action Planning to achieve the improvement in Performance Behavior – Strategic and tactical action planning, capability building, detailing including milestones to monitor the progress, structured reviews and course correction etc.

4. How it operates?

A Coaching engagement could take anywhere from six to eight months and will require Coachee to engage in a series of 'Coaching sessions' with Coach. The frequency of these sessions will be determined by Coach and Coachee but would be at least once a month. A session could last anywhere from 1.5 to 3 hours. In addition, Coachee will be required to commit time to apply learning's from the Coaching sessions in Coachees work and personal life and report back the progress (Home Work).

Coaches engage with Coachee through powerful conversation comprises of Effective and Active Listening, Seeking explanations for proper and clear understanding, questioning/ contradicting and challenging wrong track of thinking process, seeking proof to challenge the wrong beliefs and notions, encouraging rational and adult thinking process etc.

Coach helps/encourages Coachee to achieve personal discovery to identify exact problem and find out solution of change in Performance Behavior and to develop action plan to achieve it. Coach is not expected adopt short and easy route of spoon feeding or offering solution on platter to Coachee, since such short cuts may cause shortage of commitment/ conviction of Coachee to implement Action Plan on his own.

While Coach and Coachee will have a series of conversations over many months (which may appear informal and chatty), but behind the informal setting is a very strong and scientific process that is intended to help Coachee accomplish Coaching goals. To begin with, Coach will calibrate expectations in a three way dialogue between Coach, Coachee & Sponsor. This will ensure that all of them are all on the same page. Coaches also get information about Coachee from additional sources like a 360 degree feedback and psychometric tools. Armed with all this information Coach and Coachee arrive at SMART goals that will make a difference to Coachee. Coach also help Coachee to craft strategies and actions that will help to achieve these goals. Most importantly, Coach ensure that Coachee stay committed to these goals and make visible and sustainable progress. Coach, based on need, may also co-opt experts who can impart skills as needed by Coachee. At certain intervals Coach Reports progress of coaching process to the Sponsor/organization, keeping in mind boundaries of confidentiality.

How Executive Coaching changes Performance behavior?

It will explore dimensions of Coachee personality that may be undiscovered or underutilized and can be instrumental in maximizing potential. Coaching will help Coachee develop new perspectives, acquire new skills or modify styles. Coaching can bring about a dramatic shift in the way individuals approach their lives – from being reactive to being proactive, from being fixers to being preventers and from being followers to being initiators.

5. How Executive Coaching Engagement formally ended?

Coaching engagement formally come to an end when Coachee has achieved Coaching goals with a certain number of sessions with Coach. By this time Coachee would have developed heightened self-awareness and understood the implications of some of his/her typical behaviors and perspectives. Coachee will have discovered his/her blind spots and will have deeper insights into his/her strengths and developmental needs. Coachee should have a clear vision of goals and a clearly articulated action plan for achieving those goals. Coachee action plan could include learning new skills, building competencies, changing behaviors and achieving results. For example, Coachee may become more confident, assertive or learn to say no. Or Coachee may learn to temper aggression and have a more balanced leadership style, or may be able to delegate more effectively or may build gravitas and executive presence, may learn to think strategically, or may develop an international perspective etc. This supports Executives to Up Skill themselves to face challenges of Changing Business Environment.

C) Review of literature –

1. Cindy Wahler (2017) an expert in executive coaching states that there are many objectives for a coaching engagement, which may include building effective stakeholder relations, strengthening executive presence, increasing influence and impact, and enhancing the ability to inspire and motivate teams. These skills are vital to a leader's success.
2. Waldron (2018) experts in EC have stated that they offer ECEs for 2 purposes - systemic application of executive coaching to their leadership development strategies and individual coaching investments made for targeted purposes. Thus,

ECE can be of general leadership development type or a specific targeted purpose types.

3. Douglas LaBier (2013) writing for the Huffington Post has brought out an interesting fact based on global studies that while most of the CEOs and senior leaders say that they want executive coaching, but actually they don't seek it! The writer spells out the reason for this – “I think the answer lies in what they've learned to think coaching provides, in contrast to what they think they need. Both views create a gap between desire and action. Ironically, that gap is unwittingly supported by most coaching programs, themselves.” The writer has stated that most CEOs simply ignore or misconstrue key factors like increased self-awareness, honest self-knowledge, about one's motives, personality capacities and values. These are the core ECE teachings and an ignorance of these on the part of the leaders make the ECE look irrelevant for them
4. Jesse Ryan (2017) has stated the following to be the main challenges for ECE –
 - Difficulty in synchronizing executive coaching with the existing culture
 - Measuring direct ROI
 - “I don't need it” – attitude of the business leaders
 - Perception that the coaching provides something else than what they really need.
5. Mike Myatt (2010) in his post has stated that according to him the biggest problem with Executive Coaching is a widely held belief (at least by coaches) that a good business coach need not have specific business expertise and experience in the same field as the person receiving the coaching in order to provide quality business coaching services. In other words, the generalization done in the ECE's is not acceptable to the author.

D) To validate this premise, Researcher initiated a Study with following Objectives:

1. Whether Executives need support to up skill themselves to deal with agenda of ‘to cope up with changing Business Environment’?
2. Whether Executives are satisfied with use of ECE to address up skilling agenda of ‘To cope up with changing Business Environment’.
3. What are pros and cons of use of ECE as up skill agenda by Executives?

E) Hypothesis

HO – Null - Executives are **satisfied** with use of ECE to address up skilling agenda of ‘to cope up with changing Business Environment’.

HA – Alternative - Executives are **not satisfied** with use of ECE to address up skilling agenda of ‘to cope up with changing Business Environment’.

F) Research Design

1. Population: It is estimated that in Pune Region total population of Executives who must have gone through ECE may be around 20000. As per Statistical Method, the Sample Size will be 380.
2. Questionnaire was prepared to capture feedback of Executives about their first hand experiences and feedback about the ECE Process and their satisfaction Level.

3. The Questionnaire was tested for validation after Pilot Survey of 120 respondents and its statistical analysis. Based on the findings of the Pilot Survey, necessary modifications were incorporated in the Questionnaire.
4. The Primary Data collected through the Questionnaire of Sample Size was statistically analyzed with suitable tools and based which necessary conclusion were drawn about acceptance of either HO or HA Hypothesis.
5. Based on feedback of Respondents and Statistical Analysis of the same – necessary Suggestions and Recommendations will be drawn.

G) Findings from the full study –

The study based on responses from 380 respondents revealed the following –

- a. 95% of the respondents believe that executive coaching can prepare them to cope-up with the ever changing business environment.
- b. 85% of the respondents agree that executive coaching in their organization has been accorded a premier status.
- c. 88% of the respondents believe that executive coaching is looked upon genuine intervention to up skill them to prepare them to effectively face challenges of ever changing business environment.
- d. 87% of the respondents agreed that ECE can address many Objectives and Agenda effectively.
- e. 84% of the respondents agreed that many old theories are presented in the coaching process but in a slightly different way to suit the present Coaching Agenda which genuinely help them to cope-up with the dynamic business environment.

Thus, based on the above findings and data analysis, the **null hypothesis was accepted**. In other words, the primary data clearly reveals a satisfaction among executives about the contribution of executive coaching engagements to support them to cope up with ever changing Business Environment.

H) Conclusion

It is heartening to note that Executives are quite hopeful about the utility of executive coaching. An overwhelming majority of the respondents firmly believe that executive coaching is of great use. In fact, as expected, they have stated that the coaching is genuine learning intervention which positively support them to up skill themselves. Then those who have attended the ECE are satisfied about the contents.

Thus, we can conclude that Executive Coaching Engagement is of a high value, its current state is very appropriate. Hence it is recommended to HR experts to explore use of this effective and time tested Learning Intervention to support more & more Executives to up skill themselves to cope up with ever changing Business Environment.

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FINANCIAL MANAGEMENT

A CONCEPTUAL STUDY ON STRUCTURAL COST DRIVERS MODEL AND ITS SERVICE CHARACTERISTICS FOR DESIGNING BUSINESS STRATEGY WITH SPECIAL REFERENCE TO TELECOM INDUSTRY IN INDIA

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INTRODUCTION

The concept of cost driver acknowledges that there is no single factor (e.g. product volume) that drives cost. Strategic cost management literature proposes two kinds of cost drivers, the structural cost driver and the executional cost driver. Structural cost drivers are concerned with the economics of structure, technology, and the boundaries of the firm (e.g. outsourcing), and executional cost drivers are concerned with continuous improvement such as quality, productivity, speed, and punctuality. The analysis of cost driver determine cost behaviour of firm's value adding activities that provides basis for working out firm's cost position and how it might be improved. This study identifies following main cost categories as executional cost drivers of telecom industry.

- i)** Operating expenditure towards operations and maintenance of the network infrastructure (OPEX)
- ii)** Marketing, Sales and Distribution Costs (MAREX)
- iii)** Employee Cost (EMPEX) and
- iv)** Capital expenditure towards network infrastructure (CAPEX)

The aim of this study is to analyze the impact of cost drivers in strategic management of cost in telecom industry in India. All service costs, and telecommunications costs for that matter, are period costs. Services are different from products in terms of characteristics of services viz. intangibility, inseparability, heterogeneity, and perish-ability. For the analysis of cost drivers, these four major service characteristics are considered as a first set of factors that may influence each of the cost drivers viz. OPEX, MAREX, EMPEX and CAPEX. In addition, variable concerning market conditions viz. competition and increased customer expectations are considered as a second set of factors that may influence the identified four cost drivers.

Structural cost drivers are always considered in the context of trade-offs between configurations of things, e.g. between costs and benefits of a centralized versus a decentralized firm or a modern versus conventional manufacturing paradigm. Structural cost drivers concern the economics of a configuration of things – the configuration of complementarities and, thus, may be considered in a blueprint of business model the firm takes up.

2. CONCEPTUAL FRAMEWORK

2.1 COST DRIVER

The concept of cost driver acknowledges that there is no single factor (e.g. product volume) that drives cost. There are numerous factors and a complex interplay of these factors causes or drives cost influencing the cost behaviour of the firm. According to strategic cost management concept proposed by Shank, J. K. and Govindarajan, V. (1993), in addition to the volume that drives cost, structural choices and executional skills are important in assessing and answering what causes or drives cost. (Shank, J.K., 1989). Strategic cost management assumes two forms in aligning the firm's cost structure with its strategy. One is structural cost management conceived from strategic positioning of the firm and the other is executional cost management for operational effectiveness. Thus giving rise to two kinds of cost drivers, the structural cost driver and the executional cost driver. Structural cost drivers are concerned with the economics of structure, technology, and the boundaries of the firm (e.g. outsourcing), and executional cost drivers are concerned with continuous improvement such as quality, productivity, speed, and punctuality. Structural cost drivers are always considered in the context of trade-offs between configurations of things, e.g. between costs and benefits of a centralized versus a decentralized firm or a modern versus conventional manufacturing paradigm. Structural cost drivers concern the economics of a configuration of things – the configuration of complementarities. For example, an operation outsourcing model has one configuration and managed capacity model has another configuration and each may be, at least in principle, advantageous in different situations. In contrast, each of the executional cost drivers are not related to trade-offs. They are one-dimensional and 'more is always better': better quality, faster cycle times, more productivity, less waste, etc. are always preferred (Mouritsen, J. and Hansen, A., 2006).

2.2 EXECUTIONAL COST DRIVERS IN TELECOM INDUSTRY

Besides cost driver itself, strategic cost management rely on notion of value chain in assessing and answering what causes or drives cost? (Shank, J.K., 1989). The value chain is the linked set of end-to-end value creating activities from sourcing of raw material to delivering finished product to the end user. Value chain, introduced by Porter, M.E. (1985), is the firms' sequence of primary-business activities concerning product design and development, operations, and logistics. In case of typical manufacturing organisations, value chain includes designing, marketing, delivering and supporting its products in that order. Porter's value chain also include support activities such as firm infrastructure, human resource management, technology development and procurement. The value chain for fundamental manufacturing business as a sequence of production, distribution and then consumption, is quite different from service organisation. Service organisations follow another sequence wherein distribution occurs first followed by simultaneous production and consumption of services (Segal-Horn, S., 2003). Value adding activities that drive costs of the mobile networks are

- i)** maintenance of equipment and components (towards preventive maintenance, repairs and replacement of outdated equipments)
- ii)** equipment software licenses (outsourcing etc.)

- iii) Customer acquisition (marketing, advertising, etc.)
- iv) Customer provisioning (registration, activation, facilities)
- v) Customer care (CRM, complaint handling)
- vi) Charging and billing
- vii) Space/ rental charges
- viii) Interconnection charges

These cost elements of telecom service providers can be categorized in few broad categories. Gruber, H. (2005) identified four such costs categories viz. Network Operations Costs, Customer Acquisition Costs, Investment Costs, and License fees. At even higher layer these can further be grouped in two broad categories capital expenditure (CAPEX) which includes investment costs and license fees, and operational expenditure (OPEX) constituting network operations costs and customer acquisition costs. Bharti Airtel Limited with its one of the major objective as a cost efficiency prominently mentioned OPEX and CAPEX productivity ratios in its annual report for 2014-15.

According to Theodoros Rokkas, et. al. (2009) the OPEX costs for an integrated operator can be divided in to five general categories. These are described as follows:

1. Network related elements: includes all the necessary costs for network operation, OSS operation, maintenance and repair of the network elements, equipment and software licences, rental of network resources, costs for site rental and electricity.
2. Marketing and sales related elements: costs regarding sales and marketing, customer acquisition and subsidisation.
3. Customer service related elements: costs associated to customer care, charging, billing, call center.
4. IT, support and service development related elements: includes service management, design and development of new services, Business IT, management support, costs regarding the purchase of licenses for content delivery.
5. Interconnection and roaming costs: termination fees for calling or completing a call or a session originated or terminated in another network.

According to Gruber, H. (2005), mobile telecommunications is characterized by substantial economies of scale and scope, and identified four types of cost elements viz. network operation cost, handset subsidies and other subscriber acquisition costs, investment cost and license fees. The main operational costs items for mobile telecommunications are network interconnection costs, maintenance costs, personnel costs and commercial costs. One can distinguish two types of operational costs: costs that the firm can largely control, and costs determined by regulatory authorities and through bargaining. Subsidising handsets to new subscribers is essentially a means for lowering the subscriber's entry costs to the mobile phone market. Other costs are related to the turnover of subscribers, or the 'churn'. The main investment lies with the equipment related to the radio transmission between handset and network: in general, base stations account for more than 50 per cent of the cost of a network. While the cost of the main equipment and operating costs were declining, an opposite movement could be observed in licence fees (Gruber, H., 2005).

Idea Cellular Limited in its annual report for 2014-15 organizes the total operating expenses in seven major heads such as Network Expenses and IT Outsourcing Cost, Roaming and Access Charges, License Fees and Spectrum Usage Charges, Subscriber Acquisition and Servicing Expenditure, Personnel Expenditure, Advertisement and Business Promotion Expenditure, and Other Expenses.

The total cost of telecommunication service as described in Cost Accounting Records (Telecommunication Industry) Rules 2011 consists of direct costs (such as employee cost, sales and marketing cost, administration cost, etc.), network element operating cost and support function or department cost. Network element operating cost is further divided into network direct cost and support function cost.

The analysis of cost driver determine cost behaviour of firm's value adding activities that provides basis for working out firm's cost position and how it might be improved. For the analysis of costs, this study rely on value chain for service organisations introduced by Segal-Horn, S. (2003) as a sequence of distribution followed by simultaneous production and consumption of services. The following main cost categories are identified as executional cost drivers.

- i) Operating expenditure towards operations and maintenance of the network infrastructure (OPEX)
- ii) Marketing, Sales and Distribution Costs (MAREX)
- iii) Employee Cost (EMPEX) and
- iv) Capital expenditure towards network infrastructure (CAPEX)

2.3 FACTORS AFFECTING COST DRIVERS IN TELECOM INDUSTRY

All service costs are period costs. Services are different from products in terms of characteristics of services viz. intangibility, inseparability, heterogeneity, and perishability. Intangibility as a lack of physical evidence is one of the most important characteristic of services that separate it from products. For example, when we purchase a product such as bicycle or four-wheeler we have a physical product with two wheels or four wheels to demonstrate, on the other hand, when we purchase a service such as holiday package we hardly have anything tangible to demonstrate apart for intangible experience to share. This intangibility of services makes it difficult to describe or communicate services, to measure or define quality, and to understand value added by the organization. Inseparability implies simultaneous production and consumption of services. Services are produced and consumed instantaneously as against the products which are first manufactured, then stored as inventory before being consumed, at different times. Product manufacturing companies can carry inventory of finished products which is absent in service companies because of perishability of services. Services are produced and delivered while customer is present and hence cannot be stored, returned or resold. Services are heterogeneous in a sense that different customers perceive quality of the same service offering differently. Quality of service is partly dependent on personality of service personnel and partly on customers' expectations, thus, making it difficult to guarantee standard service experience (Terzioglu, B. and Chan, E.S., 2013; Miller S., 2011; Segal-Horn, S., 2003). For the analysis of cost drivers, these four major service characteristics are considered as a first

set of factors that may influence each of the cost drivers viz. OPEX, MAREX, EMPEX and CAPEX. In addition, variable concerning market conditions viz. competition and increased customer expectations are considered as a second set of factors that may influence the identified four cost drivers.

3. RESEARCH METHODOLOGY

The aim of this study is to analyze the impact of cost drivers in strategic management of cost in telecom industry in India. A grounded theory research comprising literature review, interviews and survey questionnaire is used to identify potential concepts and variables. Literature in the area of cost management in general, and telecom cost management in particular is reviewed. The few semi-structured interviews with key telecom professionals are also conducted. Four cost drivers of telecommunications are identified as executional cost drivers. The first is operating expenditure towards operations and maintenance of the network infrastructure and facilities (OPEX). The second is expenditure towards customer acquisition activities including marketing, sales and distribution (MAREX). The next is expenditure on employee (EMPEX). And the last is capital expenditure incurred in acquiring network infrastructure and facilities (CAPEX). The variables that have impact on these executional cost drivers are identified. The first among these are of set of four major service characteristics that are intangibility, inseparability, perishability and heterogeneity. In addition, competition and increased customer expectations are considered as a second set of variables concerning market conditions. A survey questionnaire to assess the impact of identified variables on indentified cost drivers is developed and administered. A response on five point Likert scale regarding impact of each of the above identified variable (e.g. intangibility, perishability, competition, etc.) on each of cost driver (viz. OPEX, MAREX, EMPEX, CAPEX) from 196 telecom professionals from lower, middle and higher management is collected.

The variable wise responses on five point Likert scale are analyzed using exploratory factor analysis in R. Two sets of structural cost drivers from factors (or latent variables) are identified. The first set comprising structural cost drivers viz. ‘organisation design’, ‘organisation positioning’ and ‘organisation performance’ are identified from measuring impact of a set of four service characteristics as that are intangibility, inseparability, perishability and heterogeneity on each of executional cost driver. The second set of observed variable includes impact of competition and increased customer expectations on each of executional cost driver. The other three structural cost drivers identified are ‘mass market services’, ‘differentiated services’, and ‘personalized services’.

The two sets of structural cost drivers (or latent variables) that are identified using exploratory factor analysis are analyzed using confirmatory factor analysis (Structural Equation Modeling – SEM) using ‘lavaan’ package in R.

4. DATA CHARACTERISTICS

The 29 responses received online and 167 responses collected through personal visits are combined. There were 19 responses of missing values in at least one of the

questions and the same were removed from the database leaving 177 cases for analysis. There are 69 responses from operations/lower level management, while 94 and 31 are from middle and senior level management respectively. The functional area representation is of 6 numbers of responses from marketing including sales and distribution, 128 from operations, 27 from human resources, and 16 responses from finance. Majority of respondents are having work experience of 11 to 20 years (83 Nos.) followed by 21 to 30 years (39 Nos.) and 3 to 10 years (33 Nos.), and very few are from less than 3 years (8 Nos.) and more than 30 years (14 Nos.) of experience.

5. MODEL DEVELOPMENT

The variable wise responses on five point Likert scale are analyzed using exploratory factor analysis (EFA) in R. All variables included are tested for normality using Shapiro-wilk normality test and factors (or latent variables) termed as structural cost drivers are identified from two sets of variable.

5.1. EFA OF FIRST SET OF VARIABLES

The first among these two is a set of 16 variables that measures impact of each of four service characteristics – viz. intangibility, inseparability, perishability and heterogeneity on each of the executional cost driver – viz. OPEX, MAREX, EMPEX and CAPEX. The analysis yielded a three-factor solution for factor loadings ≥ 0.42 . The first one is organization design. The next is organization positioning. And the last is organisation performance.

The first factor i.e. **organisation design** is concerned with long-term commitment of resource and hence has loadings from all four cost elements (OPEX, MAREX, EMPEX and CAPEX) that are reported to increase due to intangibility and inseparability characteristics of services. In service industries output is an intangible experience that may be produced, transferred and consumed at the same time (Segal-Horn, S., 2003.). One of those problems, faced by many but not all service providers, is the problem of coordinating marketing and operations (Chapter 19, Handbook of Marketing). This is reflected in increase in all the four executional cost drivers due to intangibility and inseparability characteristics of services.

There are 4 items that loads the second factor, **organisation positioning**. The components of all the cost elements viz. OPEX, MAREX, EMPEX and CAPEX that increases as a result of heterogeneity of services loads this factor. Quality of service is partly dependent on personality of service personnel and partly on customers' expectations, thus, making it difficult to guarantee standard service experience (Segal-Horn, S., 2003.). This is visible from loading of the this factor with increase in OPEX, MAREX, EMPEX and CAPEX due to heterogeneity.

The third factor has loading from 4 items representing **organisation performance** as one of the structural cost driver. Product manufacturing firms can carry inventory of finished products which is absent in service firms because of perishability of services. Capacity utilization is crucial for service firms. These concerns are visible with the loading on increase in all components of cost elements viz. OPEX, MAREX, EMPEX and CAPEX due to perishability aspect of telecom services. Capacity decisions also impact costs and profitability. There are basic compromise s between creating

additional capacity to better serve customers and increasing costs (Chapter 19, Handbook of Marketing).

5.2. EFA OF SECOND SET OF VARIABLES

In the second set of observed variable includes impact of competition and increased customer expectations. Another three latent variables viz. mass market, differentiation, personalization are identified for factor loadings ≥ 0.42 .

The variable wise responses for second set of data on five point Likert scale are analyzed using factor analysis in R. All variables included are tested for normality using Shapiro-wilk normality test and factors (or latent variables) are identified.

Managing the corporate brand and making core service relevant and valuable is yet another challenge especially for companies that have had a background of technical legacy and now facing a new commercial environment which is becoming more and more market-oriented or customer-oriented (Young, L. and Burgess, B. eds., 2010). The first factor, i.e. **Differentiated Services**, comprises loadings from increase in CAPEX as a result of both competition and customer expectations. In addition, increase in MAREX due to increase in customer expectation and increase in OPEX due to increase in competition loads this factor.

The second factor is related to the other end of service types which is '**Personalised Services**'. The elements that load this factor is reflected in loading of this factors by increase EMPEX with both competition and customer expectation.

The third factor is '**Mass Market Services**' which foresee loading from increase in OPEX with competition and can be attributed to exploitation of economies of scale and demand uncertainty due to availability of substitutes such as OTT services in telecommunication market.

In sum, six structural cost drivers of telecom service in two sets of three latent variables are identified. The first set includes organization design, organization positioning and organisation performance while the second set include mass market services, differentiated services, personalized services.

5.3. STRUCTURAL MODEL

Structural cost drivers concern the economics of a configuration of things – the configuration of complementarities and, thus, contribute to design of business model. Among the six identified structural cost drivers, the first set includes organization design, organization positioning and organisation performance which are related to business model the firm takes up. Business model is a broader concept that, in addition to describing firm's transaction within and across its boundaries, addresses issues beyond the traditional boundaries of the firm. Business models enable organisation design at enterprise level and assist in identifying untapped opportunities from within the organisation (Zott, C. and Amit, R., 2008).

The processes for service business can be classified as professional services, service shops and mass services with the decreasing order of customization and customer contact {Oxford}. The second set of structural cost drivers includes mass market services, differentiated services, and personalized services are concerned with this classification of service processes. This represents market segment the firm intends to serve, or type of services the firm wishes to provide, with the chosen business model.

Wirtz, B.W., Pistoia, A., Ullrich, S. and Göttel, V. (2016) proposed to consider business model from dynamic perspective so as the business model to evolve in response to internal as well as external changes. Thus, enabling organisations generate competitive advantage by considering customer and market components, in addition to the value adding activities of the organisation.

Structural cost drivers are always considered in the context of trade-offs between configurations of things, e.g. between costs and benefits of a centralized versus a decentralized firm or a modern versus conventional manufacturing, or service, paradigm. The two sets of latent variables, i.e. identified structural cost drivers, are analyzed using confirmatory factor analysis (Structural Equation Modeling – SEM) using ‘lavaan’ package in R. Figure 1 shows the model testing results for interrelations between the two sets of structural drivers.

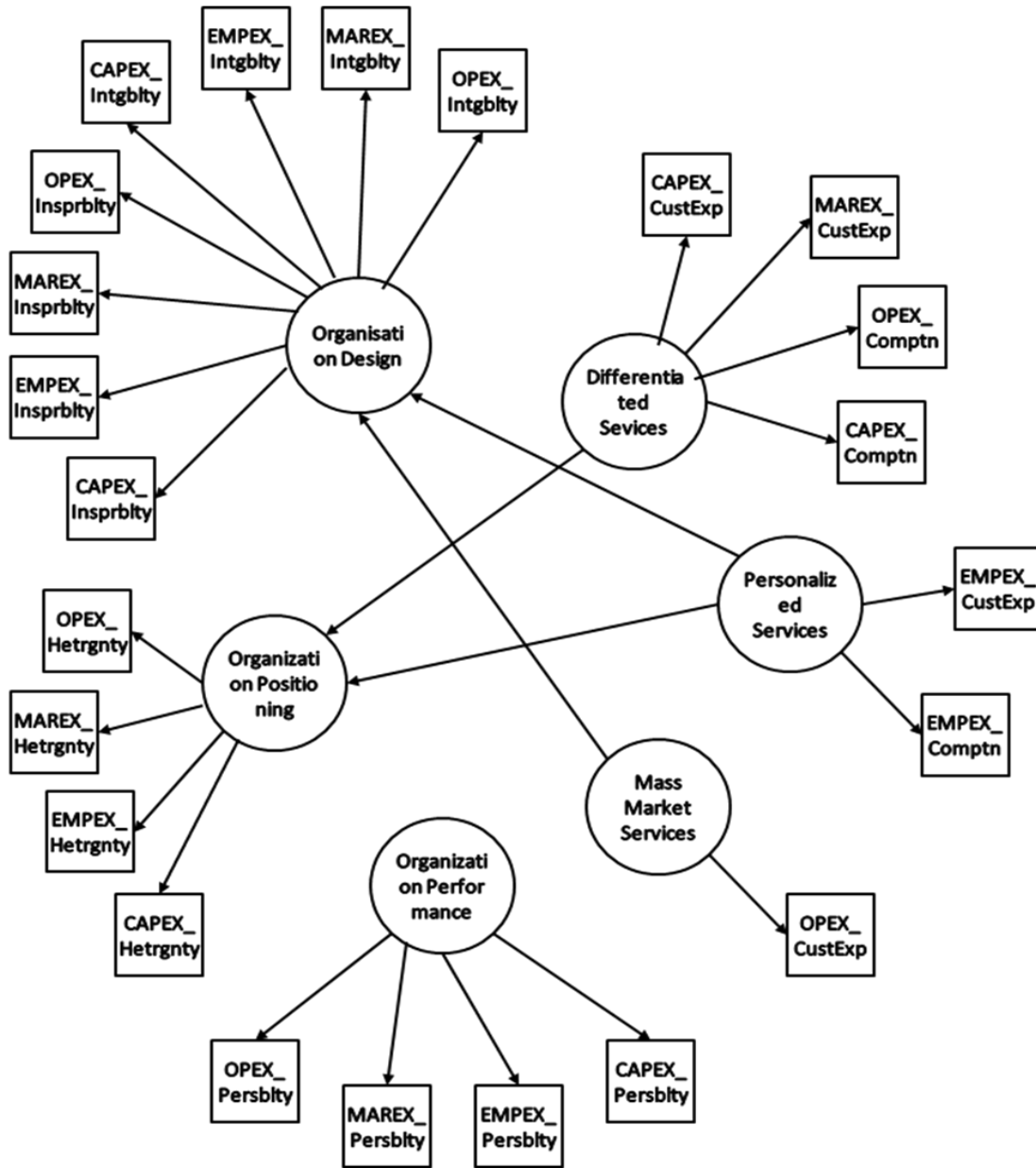


Figure 1 : Structural Model

6. RESULTS**Summary of model fit statistics**

| | |
|---|---------|
| Chi-square/ degrees of freedom | : 2.83 |
| CFI (Comparative fit index) | : 0.775 |
| RMSEA (Root mean square Error or approximation) | : 0.101 |
| SRMR (Standardized root mean Square residual) | : 0.075 |

lavaan (0.5-20) converged normally after 50 iterations

| | Used | Total |
|---------------------------------|---------|-------|
| Number of observations | 181 | 196 |
| Estimator | ML | |
| Minimum Function Test Statistic | 613.310 | |
| Degrees of freedom | 216 | |
| P-value (Chi-square) | 0.000 | |

Model test baseline model:

| | |
|---------------------------------|----------|
| Minimum Function Test Statistic | 2018.764 |
| Degrees of freedom | 253 |
| P-value | 0.000 |

User model versus baseline model:

| | |
|-----------------------------|-------|
| Comparative Fit Index (CFI) | 0.775 |
| Tucker-Lewis Index (TLI) | 0.736 |

Loglikelihood and Information Criteria:

| | |
|---------------------------------------|-----------|
| Loglikelihood user model (H0) | -5362.015 |
| Loglikelihood unrestricted model (H1) | -5055.360 |

| | |
|-------------------------------------|-----------|
| Number of free parameters | 60 |
| Akaike (AIC) | 10844.031 |
| Bayesian (BIC) | 11035.941 |
| Sample-size adjusted Bayesian (BIC) | 10845.917 |

Root Mean Square Error of Approximation:

| | |
|--------------------------------|-------------|
| RMSEA | 0.101 |
| 90 Percent Confidence Interval | 0.091 0.110 |
| P-value RMSEA <= 0.05 | 0.000 |

Standardized Root Mean Square Residual:

| | |
|------|-------|
| SRMR | 0.075 |
|------|-------|

Parameter Estimates:

| Information | Expected |
|-----------------|----------|
| Standard Errors | Standard |

Latent Variables:

| | Estimate | Std.Err | Z-value | P(> z) |
|---------------------------|----------|---------|---------|---------|
| OrgPositioning =~ | | | | |
| Hetrgnty_OPEX | 1.000 | | | |
| Hetrgnty_MAREX | 0.712 | 0.082 | 8.682 | 0.000 |
| Hetrgnty_EMPEX | 0.769 | 0.087 | 8.809 | 0.000 |
| Hetrgnty_CAPEX | 0.937 | 0.093 | 10.074 | 0.000 |
| OrgDesign =~ | | | | |
| Intngblty_OPEX | 1.000 | | | |
| Insprblty_OPEX | 1.341 | 0.216 | 6.220 | 0.000 |
| Intngblt_MAREX | 1.079 | 0.193 | 5.580 | 0.000 |
| Insprblt_MAREX | 1.230 | 0.207 | 5.944 | 0.000 |
| Intngblt_EMPEX | 1.221 | 0.210 | 5.828 | 0.000 |
| Insprblt_EMPEX | 1.229 | 0.200 | 6.140 | 0.000 |
| Intngblt_CAPEX | 1.202 | 0.200 | 5.998 | 0.000 |
| Insprblt_CAPEX | 1.418 | 0.219 | 6.474 | 0.000 |
| OrgPerformance =~ | | | | |
| Pershblty_OPEX | 1.000 | | | |
| Prshblty_MAREX | 0.823 | 0.104 | 7.886 | 0.000 |
| Prshblty_EMPEX | 0.884 | 0.114 | 7.775 | 0.000 |
| Prshblty_CAPEX | 0.938 | 0.107 | 8.783 | 0.000 |
| MassMarketServices =~ | | | | |
| CustExp_OPEX | 1.000 | | | |
| PersonalizedServices =~ | | | | |
| CustExp_EMPEX | 1.000 | | | |
| Compettn_EMPEX | 0.836 | 0.113 | 7.409 | 0.000 |
| DifferentiatedServices =~ | | | | |
| CustExp_MAREX | 1.000 | | | |
| Compettn_CAPEX | 0.980 | 0.127 | 7.743 | 0.000 |
| CustExp_CAPEX | 1.037 | 0.129 | 8.064 | 0.000 |
| Competitn_OPEX | 1.102 | 0.145 | 7.595 | 0.000 |

Regressions:

| | Estimate | Std.Err | Z-value | P(> z) |
|--------------------------|----------|---------|---------|---------|
| MassMarketServices ~ | | | | |
| OrgPositioning | 0.170 | 0.088 | 1.935 | 0.053 |
| PersonalizedServices ~ | | | | |
| OrgPositioning | 0.417 | 0.096 | 4.338 | 0.000 |
| DifferentiatedServices ~ | | | | |
| OrgPositioning | 0.357 | 0.080 | 4.449 | 0.000 |

| | | | | | |
|--------------------------|--------|-------|--------|-------|--|
| MassMarketServices ~ | | | | | |
| OrgDesign | 0.325 | 0.157 | 2.067 | 0.039 | |
| PersonalizedServices ~ | | | | | |
| OrgDesign | 0.508 | 0.173 | 2.932 | 0.003 | |
| DifferentiatedServices ~ | | | | | |
| OrgDesign | -0.008 | 0.122 | -0.063 | 0.950 | |
| MassMarketServices ~ | | | | | |
| OrgPerformance | 0.113 | 0.091 | 1.247 | 0.212 | |
| PersonalizedServices ~ | | | | | |
| OrgPerformance | -0.023 | 0.095 | -0.239 | 0.811 | |
| DifferentiatedServices ~ | | | | | |
| OrgPerformance | 0.126 | 0.074 | 1.696 | 0.090 | |

Covariances:

| | Estimate | Std.Err | Z-value | P(> z) | |
|-------------------------|----------|---------|---------|---------|--|
| OrgPositioning ~~ | | | | | |
| OrgDesign | 0.199 | 0.052 | 3.804 | 0.000 | |
| OrgPerformance | 0.319 | 0.081 | 3.947 | 0.000 | |
| OrgDesign ~~ | | | | | |
| OrgPerformance | 0.191 | 0.052 | 3.670 | 0.000 | |
| MassMarketServices ~~ | | | | | |
| PersonlzdSrvcs | 0.201 | 0.055 | 3.651 | 0.000 | |
| DifferntdSrvcs | 0.276 | 0.052 | 5.341 | 0.000 | |
| PersonalizedServices ~~ | | | | | |
| DifferntdSrvcs | 0.223 | 0.051 | 4.401 | 0.000 | |

Variances:

| | Estimate | Std.Err | Z-value | P(> z) | |
|-----------------|----------|---------|---------|---------|--|
| Hetrgnty_OPEX | 0.390 | 0.068 | 5.758 | 0.000 | |
| Hetrgnty_MAREX | 0.553 | 0.068 | 8.190 | 0.000 | |
| Hetrgnty_EMPEX | 0.617 | 0.076 | 8.125 | 0.000 | |
| Hetrgnty_CAPEX | 0.545 | 0.077 | 7.119 | 0.000 | |
| Intngblty_OPEX | 0.745 | 0.084 | 8.920 | 0.000 | |
| Insprblty_OPEX | 0.583 | 0.072 | 8.143 | 0.000 | |
| Intngblt_MAREX | 0.693 | 0.079 | 8.769 | 0.000 | |
| Insprblt_MAREX | 0.653 | 0.077 | 8.484 | 0.000 | |
| Intngblt_EMPEX | 0.716 | 0.083 | 8.590 | 0.000 | |
| Insprblt_EMPEX | 0.535 | 0.065 | 8.258 | 0.000 | |
| Intngblt_CAPEX | 0.591 | 0.070 | 8.429 | 0.000 | |
| Insprblt_CAPEX | 0.476 | 0.062 | 7.635 | 0.000 | |
| Pershbilty_OPEX | 0.547 | 0.087 | 6.264 | 0.000 | |
| Prshbilty_MAREX | 0.720 | 0.092 | 7.867 | 0.000 | |
| Prshbilty_EMPEX | 0.875 | 0.110 | 7.954 | 0.000 | |
| Prshbilty_CAPEX | 0.556 | 0.083 | 6.692 | 0.000 | |

| | | | | |
|----------------|-------|-------|-------|-------|
| CustExp_OPEX | 0.000 | | | |
| CustExp_EMPEX | 0.326 | 0.087 | 3.752 | 0.000 |
| Compettn_EMPEX | 0.689 | 0.091 | 7.536 | 0.000 |
| CustExp_MAREX | 0.629 | 0.076 | 8.313 | 0.000 |
| Compettn_CAPEX | 0.421 | 0.054 | 7.772 | 0.000 |
| CustExp_CAPEX | 0.370 | 0.051 | 7.280 | 0.000 |
| Competitn_OPEX | 0.588 | 0.074 | 7.944 | 0.000 |
| OrgPositioning | 0.824 | 0.132 | 6.228 | 0.000 |
| OrgDesign | 0.275 | 0.079 | 3.493 | 0.000 |
| OrgPerformance | 0.789 | 0.144 | 5.481 | 0.000 |
| MassMarktSrvcs | 0.656 | 0.070 | 9.334 | 0.000 |
| PersonlzdSrvcs | 0.451 | 0.103 | 4.376 | 0.000 |
| DifferntdSrvcs | 0.297 | 0.070 | 4.231 | 0.000 |

7. DISCUSSION AND CONCLUSION

In sum, six structural cost drivers of telecom service in two sets of three latent variables are identified. Among the first set, the first one factor is “organization design”. The next is “positioning of organization”. And the last is behaviour and performance of the firm. The first set includes organization design, organization positioning and organisation performance while the second set include mass market services, differentiated services, personalized services.

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**AN ANALYSIS OF COMPANY'S INVESTMENT PATTERN
(OTHER THAN FIXED ASSETS) WITH REFERENCE TO THE
SELECTED SECTORS**

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Abstract :-

An Analysis of Company's Investment Pattern (Other than Fixed Assets) with reference to IT and Pharmaceutical Sectors

A transaction that generates future income can be termed as 'Investment' in layman's language. Investment can be done by the companies as well as individuals for future income in terms of capital appreciation, dividend and interest or even in non-monetary terms. Companies utilize their internal or external sources of funds for investment in various alternatives in the capital market, money market instruments. Investment pattern will be decided on the basis of expectations, risk appetite, requirements and company objectives. This research paper attempts to analyse the investment pattern adopted by companies in IT and Pharmaceutical sector for the extensive time span of 14 years from 2004 to 2017. This research will be based published and unpublished secondary data for the selected companies. Findings and conclusions will be given on the basis of the analysis of the data collected for the same.

Key Words : Corporate Investment, Investment Pattern, IT sector, Pharmaceutical Sector, Indian Capital Market

1. Introduction

A monetary transaction of purchasing any asset or goods which will generate income in future course of time is considered as an Investment. Assets purchased for the purpose of earning income through dividend, interest, capital appreciation or for any other advantages. Investments are commonly distinguished as current and non-current investment or short term and long term investments. For corporate, investment patterns will vary from company to company depending upon their own requirements, expectations, availability of funds, risk appetite and objectives.

Investment made through surplus funds available with the company to increase the returns after considering the risk appetite and safety of the investment avenue by the corporate. Surplus of funds can be generated through various alternatives. Internal sources can be utilized for investment. Few significant internal sources are Increase in liability, decrease in asset, Net Income after Tax, Revaluation of fixed assets and decrease in net working capital etc. Also, external sources of capital are also used for the purpose of investment like borrowed capital, fresh capital raised etc.

Investments can be made in various alternatives available now- a- days to maximize the returns and balancing the objectives of the company. Most commonly used

investment avenues are equities, debentures, bonds, mutual funds etc. Corporate sector also invest large amount of the surplus in equities in subsidiaries, associate companies and joint ventures as well as preference shares, debentures along with bonds, mutual fund, CDs (Certificate of Deposits) and CPs (Commercial Papers). Investment decisions of a company are mainly based on three aspects- Safety of funds invested, Returns or profitability expected out of the invested funds and Liquidity of funds. Making the right investment decision depending upon the strategy of the company and its requirement and need with respect to the basic aspects mentioned above. Investment decisions are always considered as crucial decisions as they have direct impact on the capital structure and the profitability of the company. Diversification helps to minimize if not complete elimination of risk involved in investments. Global financial crisis made companies to introspect their investment strategies to remain buoyant in volatile situations. Well balanced, well managed investment policy chalked out considering the Risk, Return and Liquidity will help corporate to face any financial situation. Hence, researchers has selected ten companies from IT sector and Pharmaceutical sector for the purpose of this study.

2. Review of Literature

- 2.1** Myers, S. C. (1974) presented approach for analysis of interactions of corporate financing and investment decisions. Researcher has attempted to formulate capital investment decisions for the companies. The research paper is also focusing on studying and understanding the formulas derived by Modigliani and Miller's compared to more general rule of Adjusted Present Value.
- 2.2** Steven Fazzari et al (1987) analyzed the data on 421 manufacturing firms to compare investment behavior between rapidly growing firm that exhaust all of their internal finance with that of mature firms paying dividends. It has been observed by the researcher in this research that Cash flow is important factor affecting investment pattern of the company. Small and medium size firms are more dependent on internal sources; they have less exposure to external sources of finance for investments.
- 2.3** Sanjai Bhagat(1995) studied in this research paper, the determinants of investment in Research and Development for US, Canada, Europe and Japan situated companies. They have explored positive relationship between last year's tax payments and current R&D investment in Japanese firms, however negative relationship between two variables for medium and small size firms in US. Only R&D investments are studied for companies outside India.
- 2.4** PL Beena (2011) analysed pattern for Indian manufacturing sector, and it has been concluded that there is an increasing trend in internal financing since year 2000 and retained earnings contribute major share. 50 percent of the finance available is invested in fixed assets.

3. Objectives of the Study

- 3.1** To understand and analyze the trend of investment pattern (other than fixed assets) of the companies under study.

3.2 To study various other investment options used by the companies to invest their surplus funds.

3.3 To make appropriate recommendations to increase returns while keeping an eye on risk profile of the investment in other than fixed assets for the company.

4. Scope of the Study

IT industry has been identified as one of the major industries contributing to the growth of the economy. IT sector is growing with the rate of approximately 35% per year during last 10 years. IT sector contributes to nearly 7.7% to the GDP (Gross Domestic Product) in Indian economy in year 2016.

Pharmaceutical Industry accounts for approximately 3.5% of global pharmaceutical industry. India has second largest number of USFDA (U.S. Food and Drugs Administration) approved manufacturing plants outside U.S. Pharmaceutical industry is one of the largest industry in the world.

Considering the pivotal importance of IT and Pharmaceutical sector in Indian economy, researcher has selected 10 companies from each sector on the basis of market capitalization for this study. Researcher has collected the data of selected companies for extensive period of 14 years from 2004 to 2017. This research aims to study the investment pattern followed by the companies selected for the research.

5. Limitations

5.1 Only Ten listed Indian companies from IT sector and Pharmaceutical sector are considered for the research.

5.2 Research is limited to specific time period of 17 years i.e. from 2004 to 2017.

5.3 Investment pattern (other than fixed assets) of selected companies will be studied

6. Hypotheses

6.1 Significant portion of total Investments is made in Subsidiary Companies, Joint Venture, Associate companies and other companies belonging to the same group.

6.2 Investment in mutual funds is positively significant in many companies.

7. Research Methodology

Research is based on the secondary data available. The required information is collected through the official websites of the companies through audited financial statements of the companies considered for the study. Collected data is analysed using various relevant statistical tools. Findings and conclusion is represented with the help of graphs and tables.

8. Findings

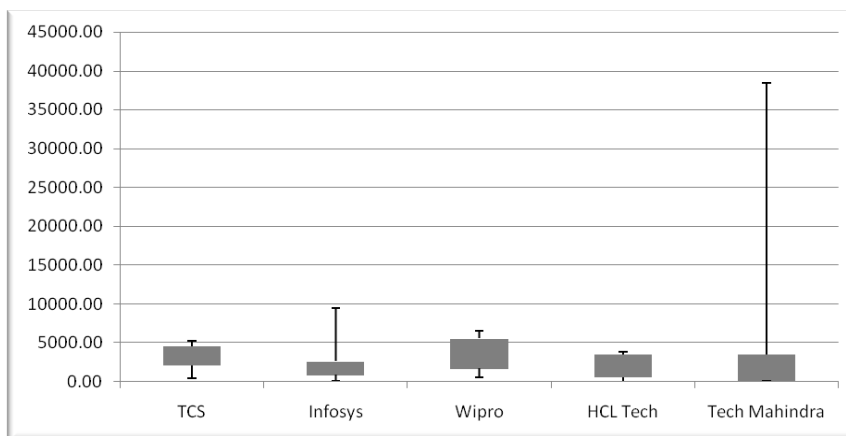


Figure 8.1

1. From the above Box Plot for the five companies out of the ten considered for the study from IT sector, we can conclude that :

TCS is one of the big companies in IT sector, maximum investments it has made in the Subsidiary companies, Associate Companies, Joint Ventures and other companies from the same group is approximately 5000 Crores. TCS, Wipro and HCL Technologies are following relatively same pattern and investing near about same amount for Investment in the subsidiary, associate, joint venture and other group companies for over the period of 17 year (period considered for research – 2004 to 2017) shown in the figure above. Length of upper and lower whiskers and the box indicates that companies invest relatively same amount every year in Subsidiary companies, Associate Companies, Joint Ventures and other companies from the same group.

However, for Infosys and Tech Mahindra, higher length of the upper whisker shows they have comparatively fluctuating investment amounts to be invested in Subsidiary, Associate, Joint Venture and other companies from the same group.

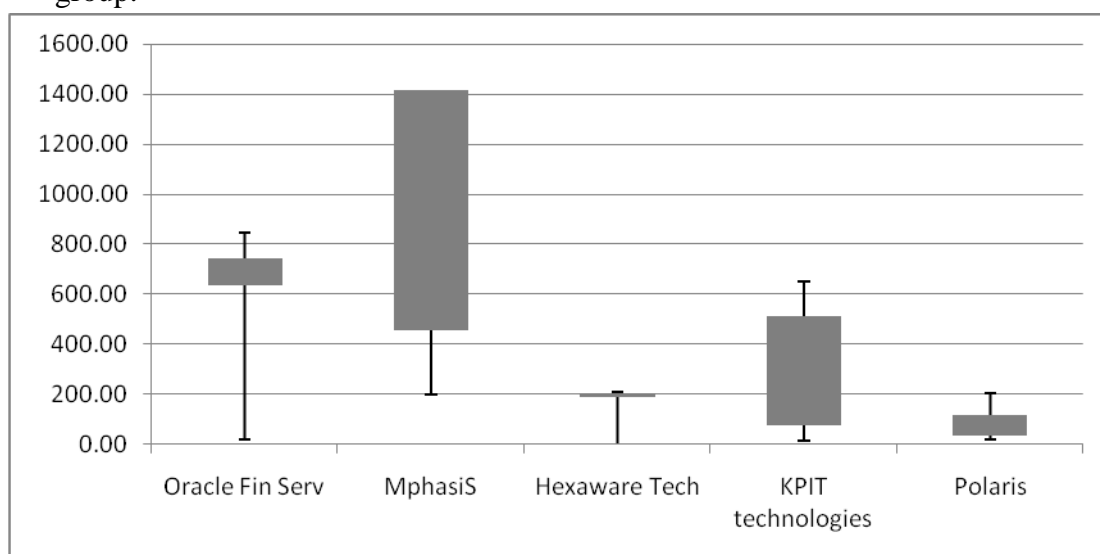


Figure 8.2

2. From the Figure 8.2, it can be seen that box plot for Oracle Financial Services, Hexaware and Polaris Software is of small size, we can conclude that amounts invested in Subsidiary, Associate, Joint Venture and other companies from the same group are within the same range and are not fluctuating much for the extensive period of 17 years (i.e. from 2004 to 2017).
3. For all the companies in fig 8.2, minimum values are near to zero, which shows that these companies have even opted to near to nil investments in Subsidiary, Associate, Joint Venture and other companies from the same group are within the same range for the extensive period of 17 years (i.e. from 2004 to 2017).
4. Considerable size of box for Mphasis represents, company’s investment in Subsidiary, Associate, Joint Venture and other companies from the same group vary substantially over the period of 17 years (i.e. from 2004 to 2017).

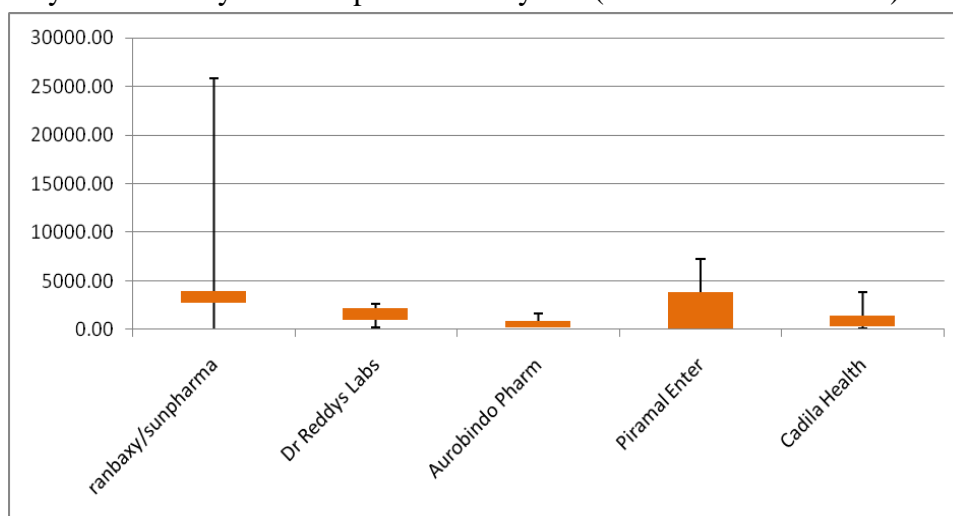


Figure 8.3

5. From fig 8.3, smaller box sizes for the companies in Pharmaceutical sector signifies that amount invested in Subsidiary, Associate, Joint Venture and other companies from the same group is mostly constant over the period of 17 years (i.e. from 2004 to 2017) . however, high whiskers for Sun Pharma shows that company has invested in high amounts during the period of research upto 25000 Crores whereas usual investments are in the range of 2000 to 3000 crores.

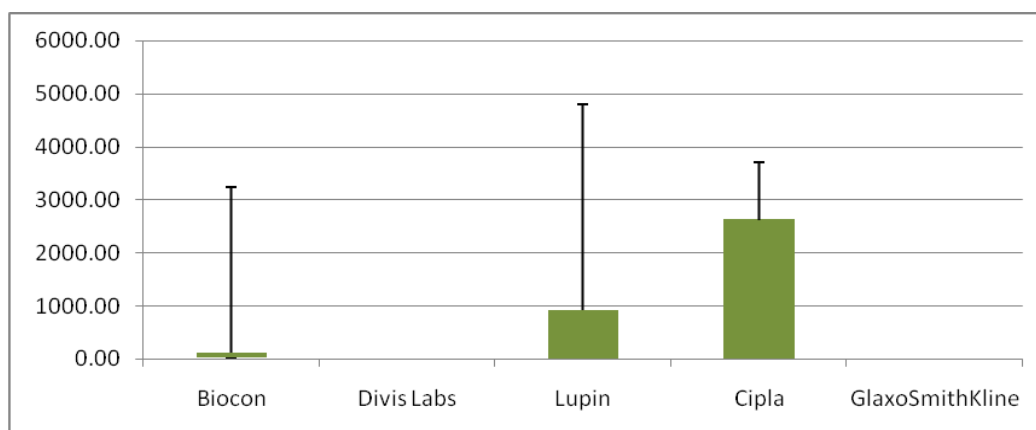


Figure 8.4

- 6. From fig 8.4, very tiny boxes representing Divis Labs and GlaxoSmithKline indicates very insignificant amount invested in Subsidiary, Associate, Joint Venture and other companies from the same group.
- 7. Longer whiskers and small box plot indicates highly variable amount invested in Subsidiary, Associate, Joint Venture and other companies from the same group during the period of 17 years (i.e. from 2004 to 2017).

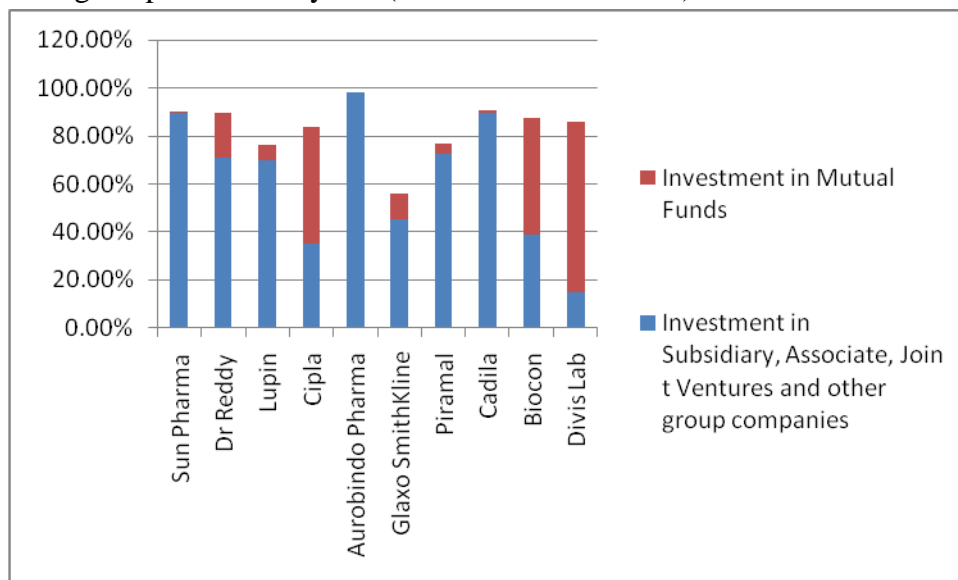


Figure 8.5

- 8. From the figure 8.5, it can be seen for the Pharmaceutical sector for the selected 10 companies for the broad period of 17 years (i.e. from 2004 to 2017), companies are investing all the money available for investment through internal and external sources of investment in Subsidiary, Associate, Joint Venture, companies from the same group and in to mutual funds. Very negligible percentage of investment is done in other sources like CD's, CP's or in equities in open capital market.

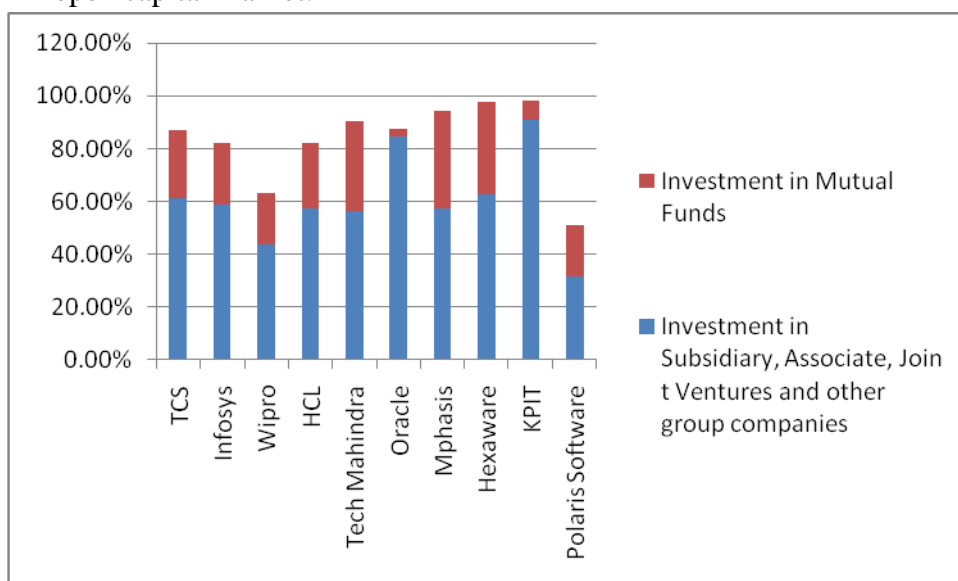


Figure 8.6

9. From the figure 8.6, for IT companies in the Indian Capital market also majorly investing in Subsidiary, Associate, Joint venture and companies from the same group and in mutual funds as their premium investment avenues over the period of 17 years, from 2004 to 2015, period considered for research.
10. From the above scrutiny of the available data, we can conclude that companies are focusing Subsidiary, associate and joint venture companies to invest the available funds. Also, Mutual funds is considered as favored investment alternative for the companies for investment.

9. Recommendation

- 9.1 Companies should also try for other investment alternatives along with opting for conventional options like Debentures, Equity investment in other companies in the capital market. This will overall help the economy to grow as more money will get invested in all the companies in the industry.
- 9.2 Out of the total investments made by the companies, some specified amount should be kept aside for companies with higher potential for growth but find difficult to raise capital.
- 9.3 Now days, many new investment avenues are available, hence companies should try to invest their more funds in such avenues, confirming the safety, security and liquidity of funds along with good returns.

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BEHAVIOURAL INVESTMENT AND ARTIFICIAL INTELLIGENCE

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ABSTRACT

Owing to the transformation in the technology, machines have become increasingly capable which has led to a lot of mental facilities earlier assumed to entail intelligence being removed from the definition of artificial intelligence. Driven by this fact, it becomes imperative for us to explore frequently what are the capabilities currently classified as artificial intelligence. The research study by Accenture projects that, by the year 2035, artificial intelligence could spectacularly boost economic growth and productivity by as far as 40% which indicates the wide potential of Artificial Intelligence across variety of industries like trade, commerce, manufacturing, retail analytics, healthcare, space exploration as well financial decision making i.e. Financial analytics or also known as Fintech.

Key Words: Artificial Intelligence, Technology, Fintech, Behavioural Finance, Decision Making, Biases, Heuristics, Irrational investment behaviour

Behavioural Finance

Behavioural finance studies the psychology of financial decision-making. People acknowledge the effect of emotions on investment decisions. People in the industry commonly talk about the role greed and fear play in driving stock markets. Behavioural finance extends this analysis to the role of biases in decision making, such as the use of simple rules of thumb for making complex investment decisions. Hence, behavioural finance takes the insights from psychology and applies them to financial decision-making. Over the past fifty years established finance theory has assumed that investors

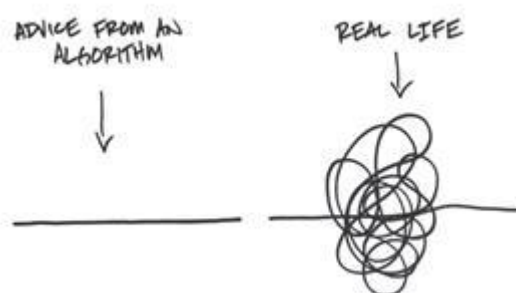


Figure 1: Traditional economic theory does not address human irrationality

have little difficulty making financial decisions and are well-informed, careful and consistent. Traditional theory posits that investors are not confused by how information is presented, nor swayed by emotions. But clearly reality does not match these assumptions. Behavioural finance has been growing over the last twenty years specifically

because of the observation that investors rarely behave according to the assumptions made in traditional finance theory. Behavioural researchers have taken the view that finance theory should take account of observed human behavior. They use research from psychology to develop an understanding of financial decision-making and create the discipline of behavioural finance.

Overview of Heuristics and Biases Framework and Investment Behaviour

Research in psychology has recognized a number of behaviors known as biases. These biases can affect all types of decision-making, but have particular implications in relation to money and investing. The biases relate to how we process information to reach decisions and the preferences we have (Shefrin, 2000). In spite of the considerable funds that are at stake, financial decision-making i.e. investment activity is one of many domains of human activity to be affected by cognitive biases. What investors believe are valid judgements may in fact be the results of effort-saving mechanisms by the brain. It can be argued that supposedly rational decisions may be the result of mental shortcuts that disregard selective information, which then has a significant impact. Heuristics referred to rule of thumb, are means of reducing the search necessary to find solution to a problem. They are shortcuts that simplify the complex method of assessing probabilities and values ordinarily require making judgments, and eliminating the need for extensive calculations. A heuristics and biases framework can be envisioned as a counterpart to standard finance theory's asset pricing model. When decision maker faced with huge amounts of data and information and an array of decision problems, people are incapable of doing the complex optimization calculations that are fundamental assumption under standard finance theory. Instead, they rely on a limited number of cognitive strategies or heuristics that simplify the complex events in making decisions.

Confirmation bias - The confirmation bias refers to the phenomenon of seeking selective information to support one's own opinions or to interpret the facts in a way that suits our own world view. They avoid critical opinions and reports, reading only those articles that put their point of view in a positive light.

Availability bias - The attention bias states that products, companies, and issuers that are more frequently highlighted in the media will be remembered more quickly by investors when they look for a suitable investment. Negative or scarcely accessible information is not considered.

Home bias - Statistics show that most investors tend to buy stocks from companies in their home country. These stocks seem more trustworthy, as investors grew up with these company names. They are also mentioned more frequently in the local media.

Anchoring - When making decisions, investors do not rely on fundamental factors. Rather, they tend to base their decision on the price at which the stock was purchased. This point of purchase behaves as the anchor and causes irrational decisions. When making decisions, people are influenced by random data; this data may have no informational value or may be outrageously high or low.

Myopic loss aversion - Most investors fear losses more than the appreciation of profits. If stock performance is checked often, they tend to focus on short term loss money and

sell everything off. A long-term view would be better. The more they can keep their curiosity at bay, the more likely they are to turn a profit with their investments, provided that their portfolio is broadly diversified.

Mental accounting - Many private investors make distinctions in their head that do not exist financially. Often, losses incurred are viewed separately from paper losses. This means that people are too quick to sell stocks when they earn a profit and too slow to sell when they sustain a loss.

Disposition effect - With the disposition effect, gains are realized too early and losses too late. Turning a paper profit into real profits makes us happy, while we tend to shy away from turning a paper loss into a real loss. One possible explanation for this is mental accounting.

Overconfidence - In most cases, we overestimate our own abilities and think we are above average. Most experts overestimate themselves – frequently to a greater degree than laypersons do. Overconfidence is often seen when the markets are on the rise.

Hindsight bias - Hindsight is 20/20. The statement “I knew the whole time this would happen” shows that we have an explanation for everything after the fact. This hindsight bias keeps us from learning from our mistakes.

Representativeness bias - After even a brief period of positive returns on the financial markets, we may think the world has changed for the better. People tend to think in terms of schemes and stereotypes experienced in the past. They arrive at a result too quickly, based on imprecise information.

Gambler’s fallacy - Here, the effective probabilities are greatly underestimated or overestimated. For example, based on the false assumption that prices are about to drop, we sell too soon and vice versa assuming that the prices will recover soon, even though they are not yet doing so.

Framing bias - Decisions are based largely on how facts are depicted. For instance, we do not think that “Four out of ten are winners” and “Six out of ten are losers” mean the same thing. The statements are identical, but most people do not realize it (Hens & Meier, 2015).

Regret avoidance - If we invest in a blue chip stock and it does not perform as hoped, we call this bad luck. However, if we invest in a niche product that fails to perform well, we tend to regret this more than we do the failure of the blue chip stock. This is because many other people have made the same mistake and thus our decision to buy it does not seem so wrong.

Evolution of Artificial Intelligence

Artificial intelligence refers to the ability of a computer or a computer-enabled robotic system to process information and produce outcomes in a manner similar to the thought process of humans in learning, decision making and solving problems (Mitra, 2017). By extension, the goal of AI is to develop systems capable of tackling complex problems in ways similar to human logic and reasoning. Artificial intelligence has been one of the most debatable subjects in the discipline of computer science since its inception.

The field enjoyed an exponential growth rate in the last five years with highest funding of \$2,388 million in 2016 (CB Insights, 2016). The terminology of artificial intelligence

was coined by John McCarthy, who was one of the founders of the discipline or artificial intelligence in the mid-1950s (Peart, 2017). Artificial intelligence has been the branch of computer science concerned with making computers behave like humans.

Domains of Artificial Intelligence

Machine learning: Machine learning is a type of artificial intelligence which makes computer learn and evolve on its own without programming (Rouse, Machine Learning, 2017). For example, Facebook uses machine learning to personalize each member's news feed.

Deep learning is a subset of machine learning. It has facilitated object recognition in images, video labeling, and activity recognition, and is making progress in perception. For example, Facebook's deep learning application DeepFace has been trained to recognize people in photos.

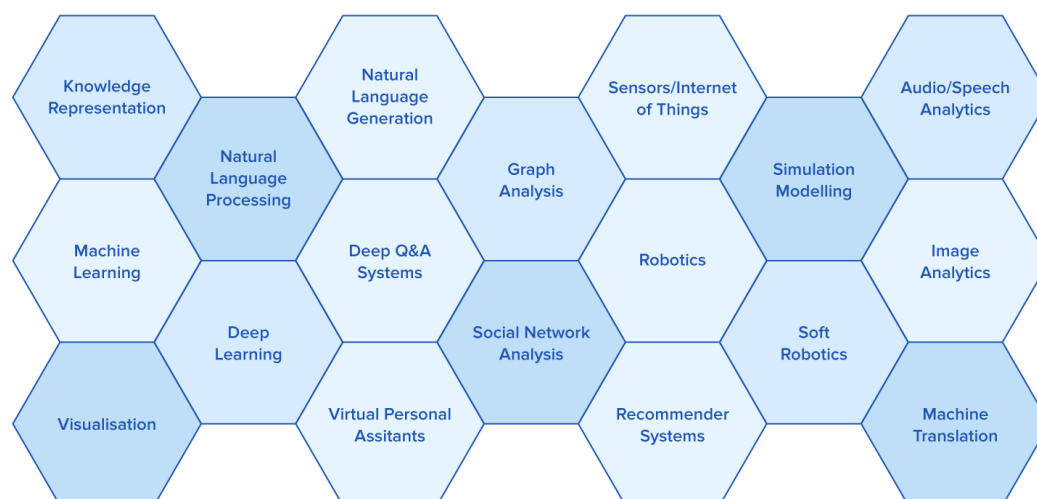


Figure 2: Pwc Report: AI and Robotics – 2017

Internet of things (IoT :) is devoted to the idea that a wide array of devices, including appliances, vehicles, and buildings can be interconnected.

Computer Vision: The aim of computer vision is to make machines capable of automatic extraction, analysis and understanding of useful information from one or more images. It has a variety of uses. For example, face recognition, gesture analysis, automated transportation etc. (BMVA).

Smart Robots: Smart robots are artificial intelligence systems which can learn from its surrounding as well as past experiences to perform tasks and build on it when necessary. There are currently around 65 companies that are into development of smart robots (Venture Scanner, 2018).

Intelligent personal assistant: Intelligent personal assistant is artificially intelligent assistance software that can finish tasks and provide services that a user needs. For example: Siri by Apple, and Cortana by Microsoft etc.

Natural language processing: The process of natural language processing is of making computers understand natural languages. The major challenge here is to clear the

ambiguity in human languages. The computers must be able to understand both the context as well as meaning of words.

Speech to speech translation: Speech to speech translation talks about the process of catching a spoken phrase and translating and speaking it simultaneously in a different language. This has many real time applications. For example, Skype has enabled people from different countries to communicate without worrying about the language barrier (Lawler, 2014).

Context aware systems: Context aware computing is related to a type of mobile systems that are sensible when it comes to their environment and adapt to it accordingly (Robles & Tai-hoon , 2010). Context awareness means a computer can sense as well as react according to changes in its environment. For example, a phone that can set the brightness of the screen based on the climate around it.

Gesture recognition: Gesture recognition is simply a computer device recognising a human motion and interpreting it in mathematical terms (Rouse, 2015). There are many industries benefiting from it such as automotive industry, gaming industry as well as consumer electronics industry.

Recommendation engine: Recommendation engines are simple algorithms which mean a very explicit step-by-step process used to solve problems mostly by computers. The objective is to provide the user with the most relevant items for them by filtering through a heap of data.

Artificial Intelligence and Investment

Data science is the discipline that allows us to analyse the unseen and with machine learning, it facilitates computing of large data sets and surface patterns, categorizing past performance for indicative future results. It's been some time since professional traders first started using computers to assist or even replace them in the increasingly complex global financial markets. Algorithmic Investment Services now accounts for nearly 90 percent of the market (Glantz & Kissell , 2014). While high-frequency trading tools are designed to buy and sell financial instruments in fractions of a second, artificial intelligence based models look for the best trades hours, days, weeks or even months into the future.

As per a study by Accenture by 2035, using artificial intelligence economic growth and productivity could improve by 40%. For years, investment management companies have relied on computers to make trades. In 2000, Goldman Sachs' US cash equities trading desk in its New York headquarters had 600 traders. Today, it has two equity traders, with machines doing the rest. For investors, robo-advice can offer up to 70 percent in cost savings in certain services. In the investment management business, it is now the time of the Robo-Advisors. The term "robo-advisor" was essentially unheard-of just five years ago, but it is now commonplace in the financial landscape. These are algorithms built to calibrate a financial portfolio to the goals and risk tolerance of the user. Users enter their goals, age, income, and current financial assets. The advisor then spreads investments across asset classes and financial instruments in order to reach the user's goals. Some established investment firms are buying existing robo-advisors while others are even creating their own robo-advisors.

The Financial Technology industry has drastically advanced because of the innovations in Artificial Intelligence. Advancements in technology have increased the power and speed with which data is computed, hence reducing cost. This results in better access to big data and innovative algorithms capable of transforming the fintech sector. Large amounts of data makes it is possible to predict financial behavior, preferences and have insights on investment possibilities. The surge in the use of technology has led to the development of a large number of companies in the Fintech industry, simply because of the capabilities of Artificial Intelligence. Many funds are now moving towards true machine learning. Just some of the pioneers in this field are Bridgewater Associates, Renaissance Technologies and the Medallion Fund at Renaissance (Nanalyze, 2016). Furthermore, a host of start-ups such as Alpaca, Binatix, Sentient, and Walnut Algorithms have made AI available to retail investors, whose operations are more influenced by cognitive biases than those of professional teams. A precise function provides investors with bespoke content based on specific behavioural analysis. This function helps users identify common trading biases and behavioural patterns, and provides them with relevant educational content whenever these biases are detected. It can also make financial calculations based on available data and provide educational materials to fix the biases. Thus, users can avoid the mental traps that humans tend to fall into while trading, and make more rational investment decisions. AI can be efficient in trading because of the large volumes of well-structured data available.

Conclusion

AI is now embarking on a new boom phase, the third in its history. Artificial intelligence is being utilized in various forms in the financial sector among many others. Financial institutions must optimize the use artificial intelligence more aggressively through open innovation. As an extension of market analysis, artificial intelligence could be employed with the aim of formulating optimal behavioural investment strategies. Moreover, companies now offer robo-advisory services that use artificial intelligence to recommend behavioral portfolios tailored to investors' investment style with the benefit of understanding the pertinent behavioural bias. Deep learning's competitiveness hinges on the quality of available training data and data processing speed. Financial institutions have been amassing large data archives and utilizing various algorithms since before deep learning's advent. Going forward, financial institutions will likely apply deep learning more broadly, capitalizing on their data archives. Utilization of deep learning requires a larger investment in computing power than most companies can afford on their own. Cloud vendors such as Google, Microsoft, IBM and Amazon offer artificial intelligence platforms. Utilizing such platforms to reap the benefits of deep learning will likely become the mainstream approach if affordability can be factored. Moreover, there are restrictions to individual as well as institutional capability to research and exploit artificial intelligence. As awareness in open innovation is growing in recent years even in the financial sector, artificial intelligence research and utilization could become a major sphere of AI led Fintech revolution.

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A COMPARATIVE STUDY OF PENETRATION TRENDS IN HEALTH INSURANCE SECTOR IN INDIA

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Introduction:

Insurance has become an integral aspect in everyone's life today. The insurance industry has both economic and social purpose and relevance. It provides social security and promotes individual welfare. Insurance is a means of protection from financial loss. It is a form of risk management primarily used to hedge against the risk of a contingent, uncertain loss.

An entity which provides insurance is known as an insurer, insurance company, or insurance carrier. A person or entity who buys insurance is known as an insured or policyholder. The insurance transaction involves the insured assuming a guaranteed and known relatively small loss in the form of payment to the insurer in exchange for the insurer's promise to compensate the insured in the event of a covered loss. The loss may or may not be financial, but it must be reducible to financial terms, and must involve something in which the insured has an insurable interest established by ownership, possession, or preexisting relationship.

The insured receives a contract, called the insurance policy, which details the conditions and circumstances under which the insured will be financially compensated. The amount of money charged by the insurer to the insured for the coverage set forth in the insurance policy is called the premium. If the insured experiences a loss which is potentially covered by the insurance policy, the insured submits a claim to the insurer for processing by a claims adjuster.

Types of Insurance:

a) Auto insurance: Also referred to as vehicle insurance, car insurance, and motor insurance in India. Vehicle insurance basically protects you against financial loss in case of an accident, theft or natural disaster like fire, floods or land slides. Vehicle insurance includes car insurance as well as two-wheeler insurance. Commercial Vehicles like buses, lorries and trucks are generally covered by Commercial Vehicle Insurance. b) Gap insurance c) Health insurance d) Income protection insurance e) Casualty insurance f) Life insurance: A life insurance policy is a contract between you and your insurance provider, where you pay a premium for a set period of time and in return your family will get a financial payout in case of your unfortunate demise. g) Burial insurance h) Property insurance: Property insurance or home insurance provides coverage against risks to property due to man-made or natural calamities like fire, weather damage, earthquake or theft to name a few. i) Liability j) Credit. k) travel

insurance :Travel insurance policies generally cover medical expense when you are travelling abroad. It can be availed to cover both long and short trips. These plans can also cover non-medical cost while traveling depending on the premium paid – for instance, paying for hotel accommodation and expenses in case of cancellation of flights or other untoward circumstances.

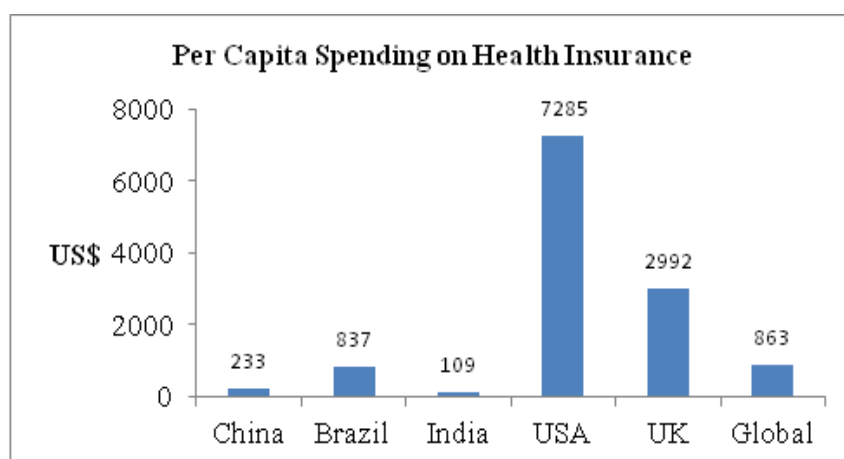
Other types like business interruption insurance, pet insurance, pollution insurance, Title insurance, tuition insurance etc.

Health insurance is a type of insurance coverage that covers the cost of an insured individual's medical and surgical expenses. Depending on the type of health insurance coverage, either the insured pays costs out-of-pocket and is then reimbursed, or the insurer makes payments directly to the provider. In health insurance terminology, the "provider" is a clinic, hospital, doctor, laboratory, health care practitioner, or pharmacy. The "insured" is the owner of the health insurance policy; the person with the health insurance coverage. Health insurance is a type of insurance where the insurer pays the medical expenses on behalf of the insured. The insurer has to pay a monthly premium to the health insurance company, which can be on a monthly, quarterly, or annual basis. Health insurance covers disability and long term nursing. The healthcare providers cover the costs related to medical treatments, drugs, and other expenses. The coverage depends on the health insurance plan taken by the insurer.

Review of Literature:

India is far behind at global level in spending on Health. Into that spending on Health insurance is very less as compared to some developing and developed countries. According to the World Health Organisation (WHO), this is among the lowest of the BRICS (Brazil, Russia, India, China, South Africa) economies.

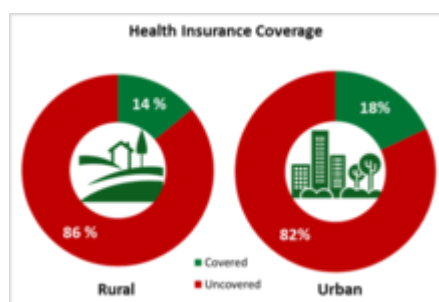
Table No.1



Source: WHO health statistics, 2010

Health insurance in India is a growing segment of India's economy. Policies are available that offer both individual and family cover. The survey carried out in the year 2014 found out that, more than 80% of Indians are not covered under any health insurance plan, and only 18 % (government funded 12%) of the urban population and 14% (government funded 13%) of the rural population was covered under any form of health insurance.

Table No.2



Health Insurance industry is launched in India in 1986. Due to liberalization and in some point awareness it has grown significantly but not what it was expected. The purpose of Health insurance has to be to increase the quality of health care as well as alleviate the financial distress associated with medical expenses. Out of 1.3 billion population approximately only 15% population of India is covered under health insurance. According to Mckinsey study India spends 4% of its GDP on health care*. Of this roughly 9% is financed by insurance arrangement, 30% is financed by public expense (Government and NGO's) and rest 61% is self financed. This level of self financing is bound to have negative consequences. From the above chart one can identify that the more population in urban are covered under Health Insurance rather than in rural area.

Number of persons covered under Health Insurance

(Excluding PA & Travel Insurance Business)

Table No.3

(in Lakh)

| Class Of Business | 2012-2013 | 2013-2014 | 2014-2015 | 2015-2016 | 2016-2017 |
|---|---------------|---------------|---------------|---------------|---------------|
| Government sponsored schemes including RSBY | 1494 (72%) | 1553 (72%) | 2143 (74%) | 2733 (76%) | 3350 (77%) |
| Group Business (other than govt. business) | 343 (17%) | 337 (15%) | 483 (17%) | 570 (16%) | 705 (16%) |
| Individual Business | 236 (11%) | 272 (13%) | 254 (9%) | 287 (8%) | 320 (7%) |
| Grand Total | 2073 | 2162 | 2880 | 3590 | 4375 |

Note: figures in bracket indicate the share of each class of business in total number of persons covered. Data does not include the detail of health insurance business carried out in foreign countries.

Sources: IRDAI English Annual Report 2017

During 2016-2017, the general and health insurance companies have issued 1.31 crore health insurance policies (excl. PA & Travel insurance) covering a total of 43.75 crore persons (2015-16: 35.9crore) and registered a growth of 21.9 % in number of persons covered over the previous year. In terms of number of persons covered under health

insurance, three-fourth of the persons were covered under government sponsored health insurance schemes and the balance one-fourth were covered by group and individual policies issued by general and health insurers.

Information regarding patient particulars are entered into computer systems at the hospital's billing desk, treatment-related information is often manually written by doctors. The hospital sends the patient's documents to the insurance company, for them to be assessed at multiple levels by the insurer for the patient's eligibility. The computer systems at hospitals are often not compatible with those at the insurance companies. It is estimated that many hospitals spend nearly 8% to 10% of their revenue on managing this laborious process.

However, cloud-based platforms — connecting the system at the hospital and at the insurance company — are making a difference. Overcoming incompatibility problems, the software converts the hospital data into one standard form, as recommended by IRDAI (Insurance Regulatory and Development Authority of India). At the insurer's end too, there is a software system that processes and adjudicates the insurance claims.

Network hospitals are the enlisted hospitals of your insurance provider where you can avail cashless service. The most common mistake generally insurance customers make while buying health insurance policies is not checking the list of network hospitals or not knowing the name or location of the network hospital closest to their home or office location. If at any given point of time, an emergency strikes finding the closest network hospital would not only end up wasting very precious time but can also prove to be extremely dangerous. The advent of Third Party Administrators (TPAs) is expected to play an important role in health insurance market in ensuring better services to policyholders. In addition, their presence is expected to address the cost and quality issues of the vast private healthcare providers in India. However, the insurance sector still faces challenge of effectively institutionalizing the services of the TPA. A lot needs to be done in this direction. Hospital industries foresee business potential in their association with TPA in the long-run. In 2016-17 there are 27 TPA's enrolled under IRDA. Number of hospitals in the network of TPA's at the beginning of the year 2016-17 is 1.22 lacs. During the year 0.16 lacs hospitals were added and 0.04 lacs hospitals were withdrawn or removed from the network. So at the end of the year there were 1.34lacs hospitals in India in network of TPA's. Among those most of the hospitals are established in urban area and are private hospitals.

Objectives of the Study:

1. To understand the penetration of health insurance in India.
2. To understand the quality of network hospitals for health insurance in India.
3. To study the comparison of penetration for the year 2013-14, 2014-15 & 2015-16

Research Methodology:

Research methodology is the systematic, theoretical analysis of the procedures applied to a field of study. This study is based on secondary data which is published in IRDAI journal quarterly Jan-Mar 2017, Handbook on Indian Insurance Statistics 2015-2016 etc. Some data is collected from internet websites. URL of which has been mentioned

in references. This study is started with explorative study which is later on made to descriptive study. For comparison of penetration data has been collected for years 2013-14 and 2015-16.

Data Analysis:

To understand the penetration of health insurance table no. 1 shows that India is spending very less per capita on health insurance as compared to global level.

Health Insurance

Number of persons covered 2013-14, 2014-15 & 2015-16

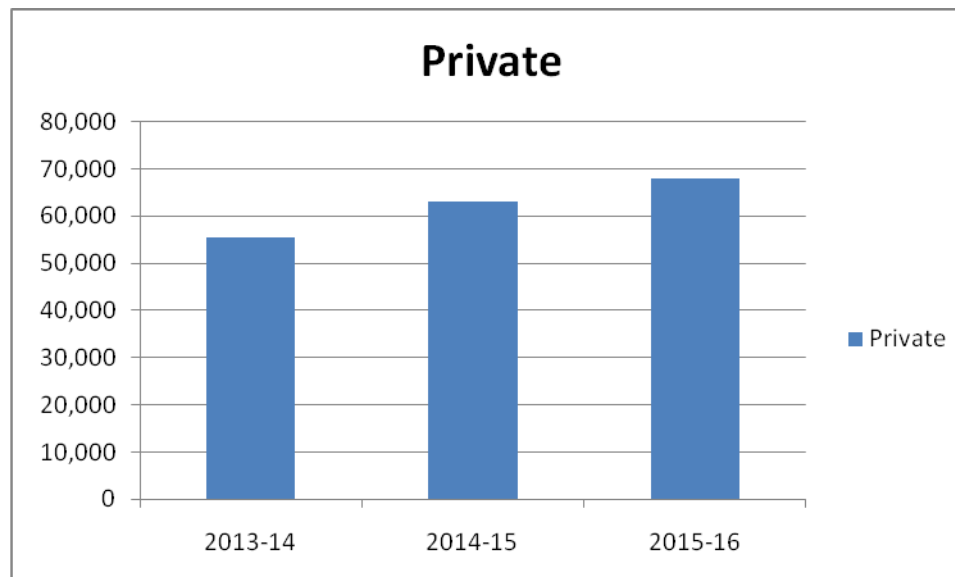
(number of persons in '000)

Table no. 4

| Insurer | 2013-14 | 2014-15 | 2015-16 |
|--------------------|----------|----------|----------|
| Private | 55,474 | 63,002 | 67,938 |
| Public | 1,45,336 | 2,11,451 | 2,76,563 |
| Specialized health | 15,421 | 13,579 | 14,461 |
| Total | 2,16,231 | 2,88,032 | 3,58,962 |

Interpretation:

From the above chart it has been shown that total number of persons insured under health insurance are increased. Which is inclusive of private insurer, public insurer and specialized insurer.



Above graph shows that there is growth in number of persons covered under private health insurance. From year 2013-14 to 2015-16 there is growth of 22.47%. which is comparatively not more as it should be for such huge population.

For public insurer the growth is almost double from 2013-14 to 2015-16 i.e. it is 80% to 90% .there is a growth of 45.4% from 2013-14 to 2014-15 and growth of 30% from 2014-15 to 2015-16. As compared to earlier year the growth is reduced for the year 2014-15 to 2015-16.

For specialized health insurer the number of persons reduced from the year 2014-15 as compared to 2013-14. There is again growth of only 6% from the year 2014-15 to 2015-16. It shows that there is less interest in consumers for purchasing specialized health insurance.

From the table it is noted that the total number of persons covered under health insurance are increased by 66% from 2013-14 to 2015-16. The contribution of public sector plays key role to increase penetration under health insurance.

Also exhibit no.4 shows that number of hospitals in the network of TPA's at the beginning of the year 2016-17 is 1.22 lacs. During the year 0.16 lacs hospitals were added and 0.04 lacs hospitals were withdrawn or removed from the network. So at the end of the year there were 1.34lacs hospitals in India in network of TPA's. Among those most of the hospitals are established in urban area and are private hospitals.

Findings:

1. From the secondary data it is noted that 18% of Indian population is covered under health insurance in India. Table no. 1 shows that India is far behind in health insurance sector as compared to other developing countries and global level. Though India is having vast population in human development it is lacking behind. There are many other reasons that our human development index is not at par.
2. Though there is growth in total number of persons covered under health insurance from year 2013-14 to 2015-16; there is major contribution of public insurers. There are several government schemes which are promoting health insurance. But the sum assured for those schemes is less.
3. Even though it is slight increase in number of persons covered under health insurance it is very less as compared to total population of country size like India.
4. Policy level directives and industry efforts are needed to educate consumers on health insurance role and benefits. Consumers face problem at the time of policy reimbursement in hospitals they should get educate about the health insurance service value chain.
5. There is a need for health insurance councilors at hospitals to give some knowledge and council customers about health insurance.

Conclusion:

It is always a good thing to have insurance. It is especially advisable to have at least life insurance and health insurance (auto insurance is compulsory on purchasing a vehicle). In both cases, it is cheaper to buy the insurance when you are young and healthy rather than when you are older and the premium becomes more expensive. Buying insurance also buys peace of mind and it is one purchase you will never regret. Still the rate of awareness is not as it is expected to have. With the better use of technology we have a chance at reaching out to a larger populace, especially those in need. With technology, we have a better chance at simplification. We can educate consumers about the benefits of health insurance policy. To live long and healthy is important to build a strong nation. By making promotion of health insurance products we can eliminate negative

approach of customers towards health insurance. Further descriptive study is needed for detail understanding of penetration of health insurance.

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Exhibit 1: HEALTH INSURANCE (EXCLUDING TRAVEL -DOMESTIC/OVERSEAS AND PERSONAL ACCIDENT) GROSS PREMIUM AND NUMBER OF PERSONS COVERED (2013-14)

(No. of Policies in Actuals) (No. of Persons in '000) (Amount in ` Lakh)

| Insurer | Government Sponsored Schemes including RSBY | | | Group Insurance Schemes excluding Govt Sponsored Schemes | | | Family/Floater Insurance excluding Individual Policies | | | Individual Insurance excluding Family /Floater Policies | | | TOTAL | | |
|-----------------------------------|---|------------------------|---------------|--|------------------------|---------------|--|------------------------|---------------|---|------------------------|---------------|-----------------|------------------------|---------------|
| | No. of policies | No. of Persons Covered | Gross Premium | No. of policies | No. of Persons Covered | Gross Premium | No. of policies | No. of Persons Covered | Gross Premium | No. of policies | No. of Persons Covered | Gross Premium | No. of policies | No. of Persons Covered | Gross Premium |
| Bajaj Allianz | | | | 1836 | 1121 | 40362 | 395077 | 1101 | 24258 | 12791 | 18 | 1356 | 409704 | 2240 | 65975 |
| Bharti AXA | | | | 2641 | 653 | 18491 | 17995 | 28 | 915 | | | | 20636 | 681 | 19406 |
| CHOLA MS | 3 | 1562 | 8586 | 5483 | 665 | 7681 | 46870 | 119 | 1799 | 39692 | 56 | 1337 | 92048 | 2402 | 19404 |
| Future Generali | 1 | 81 | 9 | 746 | 376 | 10628 | 11906 | 40 | 804 | 13577 | 22 | 679 | 26230 | 516 | 12121 |
| HDFC ERGO | 17 | 1366 | 2996 | 906 | 1609 | 24972 | 146116 | 348 | 8777 | 269967 | 228 | 21864 | 417006 | 3552 | 58608 |
| ICICI Lombard | 49 | 12216 | 20866 | 3404 | 2635 | 74503 | 109309 | 295 | 14128 | 488918 | 502 | 43153 | 601680 | 15650 | 152650 |
| IFFCO Tokio | 116 | 9887 | 11007 | 802 | 833 | 12610 | 35788 | 128 | 2200 | 57650 | 85 | 2202 | 94356 | 10933 | 28219 |
| Liberty Videocon | | | | 61 | 44 | 419 | | | | | | | 61 | 44 | 419 |
| L&T General | 7 | 1776 | 1376 | 102 | 106 | 1504 | 9047 | 26 | 832 | 11904 | 17 | 863 | 21060 | 1924 | 4575 |
| Magma HDI | 0 | 0 | 0 | | | | | | | | | | | | |
| Rajaja QBE | 0 | 0 | 0 | | | | | | | 66 | 0 | 2 | 66 | 0 | 2 |
| Reliance | 70 | 11194 | 22526 | 712 | 505 | 14682 | 59141 | 174 | 4442 | 37537 | 53 | 1705 | 97460 | 11927 | 43352 |
| Royal Sundaram | 0 | 1260 | 4154 | 478 | 356 | 2677 | 66205 | 166 | 4309 | 230174 | 365 | 10013 | 296857 | 2167 | 21354 |
| SBI General | 0 | 0 | 0 | 385 | 109 | 713 | 9603 | 25 | 524 | 34343 | 12 | 860 | 44331 | 146 | 2116 |
| Spiram General | 0 | 0 | 0 | | | | | | | | | | | | |
| Tata AIG | 15 | 1908 | 4792 | 3970 | 93 | 1231 | 46638 | 155 | 2975 | 61582 | 75 | 2310 | 112205 | 2228 | 11307 |
| Universal Sompo | 0 | 0 | 0 | 2106 | 447 | 4844 | 102244 | 580 | 3478 | 32694 | 35 | 348 | 137044 | 1061 | 8669 |
| Private Total | 278 | 41251 | 76312 | 23632 | 9551 | 215716 | 1055939 | 3205 | 69439 | 1290895 | 1457 | 86711 | 2370744 | 55474 | 448178 |
| National | 31655 | 55264 | 62968 | 9711 | 770 | 132559 | 177729 | 489 | 14259 | 138816 | 4332 | 91164 | 1607711 | 60855 | 300970 |
| New India | 26 | 6786 | 10385 | 5665 | 6427 | 172472 | 95961 | 336 | 9257 | 1491673 | 4908 | 138030 | 1593345 | 18457 | 330144 |
| Oriental | 58 | 1579 | 17226 | 4457 | 4358 | 90187 | 576597 | 1614 | 45182 | 626030 | 1096 | 35004 | 1207142 | 8647 | 187599 |
| United India | 24 | 43004 | 35483 | 137008 | 10598 | 153313 | 326128 | 886 | 20515 | 747216 | 2890 | 56048 | 1212376 | 57378 | 265399 |
| Public Total | 31763 | 106633 | 126062 | 156841 | 22152 | 548531 | 1178435 | 3325 | 89214 | 4253535 | 13226 | 320246 | 5620574 | 145336 | 1084072 |
| Apollo Munich | 15 | 156 | 777 | 603 | 662 | 19511 | 206616 | 686 | 29124 | 222061 | 375 | 16406 | 429295 | 1676 | 65821 |
| Cigna TTK | 0 | 0 | 0 | | | | 224 | 665 | 21 | 325 | 343 | 13 | 549 | 1008 | 34 |
| Max Bupa | 3 | 1046 | 789 | 1022 | 264 | 5445 | 130794 | 387 | 19539 | 72790 | 73 | 4979 | 204609 | 1769 | 30753 |
| Religare | 8 | 1726 | 445 | 579 | 581 | 7901 | 35936 | 115 | 3909 | 31720 | 43 | 2746 | 68243 | 2463 | 15004 |
| Star Health | 20 | 4477 | 3768 | 5302 | 456 | 8640 | 803843 | 2713 | 62642 | 522921 | 657 | 30523 | 1332036 | 8302 | 105593 |
| Specialised Health Insurers Total | 46 | 7403 | 5799 | 7506 | 1962 | 41498 | 1177413 | 4565 | 115235 | 849817 | 1490 | 54672 | 2034782 | 15421 | 217204 |
| Grand Total | 32087 | 155267 | 208193 | 187979 | 33665 | 805745 | 3411787 | 11096 | 273887 | 6394247 | 16183 | 461625 | 10026100 | 216231 | 1749454 |

**Exhibit 2: HEALTH INSURANCE (EXCLUDING TRAVEL -DOMESTIC/OVERSEAS AND PERSONAL ACCIDENT)
GROSS PREMIUM AND NUMBER OF PERSONS COVERED (2014-15) (Contd...)**

(No. of Policies in Actuals) (No. of Persons in '000) (Amount in ` Lakh)

| Insurer | Government Sponsored Schemes including RSBY | | | Group Insurance Schemes excluding Govt Sponsored Schemes | | | Family/Floater Insurance excluding Individual Policies | | | Individual Insurance excluding Family /Floater Policies | | | TOTAL | | |
|-----------------------------------|---|------------------------|---------------|--|------------------------|---------------|--|------------------------|---------------|---|------------------------|---------------|-----------------|------------------------|---------------|
| | No. of policies | No. of Persons Covered | Gross Premium | No. of policies | No. of Persons Covered | Gross Premium | No. of policies | No. of Persons Covered | Gross Premium | No. of policies | No. of Persons Covered | Gross Premium | No. of policies | No. of Persons Covered | Gross Premium |
| Bajaj Allianz | | | | 2066 | 705 | 33213 | 238117 | 465 | 16921 | 168693 | 472 | 12873 | 408666 | 1641 | 63007 |
| Bharti AXA | | | | 2107 | 1124 | 15301 | 18152 | 34 | 821 | | | 20259 | 20259 | 1156 | 16122 |
| CHOLA MS | 9 | 1874 | 3180 | 8666 | 1012 | 10534 | 52811 | 147 | 2279 | 29937 | 46 | 1294 | 91423 | 3079 | 17286 |
| Future Generali | 8 | 1373 | 975 | 925 | 307 | 10485 | 14829 | 49 | 1041 | 13604 | 23 | 810 | 29666 | 1752 | 13316 |
| HDFC ERGO | | 2818 | -100 | 813 | 381 | 8910 | 168157 | 413 | 15027 | 273341 | 236 | 26499 | 442311 | 3846 | 50336 |
| ICICI Lombard | 88 | 8180 | 14475 | 3074 | 1717 | 50255 | 106515 | 304 | 15633 | 551607 | 557 | 54496 | 661284 | 10758 | 134862 |
| IFFCO Tokio | 57 | 12259 | 7440 | 1000 | 1379 | 21578 | 55240 | 237 | 3705 | 59096 | 92 | 2405 | 115393 | 13967 | 35133 |
| Liberty Videocon | | | | 343 | 180 | 3679 | 111 | 0 | 10 | 120 | 0 | 6 | 574 | 180 | 3695 |
| L&T General | 8 | 606 | 385 | 87 | 42 | 480 | 24321 | 73 | 1932 | 24490 | 35 | 1940 | 48906 | 755 | 4736 |
| Magma HDI | | | | | | | | | | 1 | 0 | 0 | 1 | 0 | 0 |
| Rabaja QBE | | | | | | | | | | 58 | 0 | 1 | 58 | 0 | 1 |
| Reliance | 50 | 17668 | 27107 | 667 | 486 | 12921 | 56444 | 175 | 3335 | 27079 | 30 | 1345 | 84240 | 18359 | 44708 |
| Royal Sundaram | 7 | 1757 | 2117 | 516 | 703 | 5356 | 68010 | 190 | 4636 | 123972 | 236 | 8327 | 192505 | 2886 | 20436 |
| SBI General | | | | 908 | 637 | 9768 | 1264 | 4 | 97 | 3851 | 4 | 74 | 6023 | 645 | 9940 |
| Shriyam General | | | | | | | | | | | | | | | |
| Tata AIG | 38 | 1526 | 3401 | 573 | 331 | 1925 | 143850 | 214 | 4064 | 141177 | 89 | 2371 | 285638 | 2160 | 11785 |
| Universal Sompo | | | | 3801 | 900 | 7625 | 158001 | 892 | 5387 | 20606 | 22 | 256 | 182408 | 1814 | 13272 |
| Private Total | 265 | 48061 | 58964 | 25536 | 9903 | 192039 | 1105822 | 3196 | 74891 | 1437632 | 1840 | 112700 | 2569255 | 63002 | 438615 |
| National | 29501 | 73430 | 94323 | 10061 | 5051 | 154078 | 220487 | 686 | 17502 | 1448917 | 4208 | 107728 | 1708966 | 83374 | 373631 |
| New India | 82 | 23223 | 43893 | 11964 | 9405 | 188095 | 628937 | 2045 | 57962 | 989626 | 2321 | 103025 | 1630609 | 36994 | 392979 |
| Oriental | 35 | 15442 | 5289 | 166131 | 4354 | 113378 | 687945 | 1935 | 55594 | 487493 | 825 | 30312 | 1341604 | 23056 | 204573 |
| United India | 41 | 46869 | 36356 | 84549 | 17261 | 196549 | 330580 | 924 | 27623 | 767005 | 2973 | 56488 | 1182275 | 68027 | 317018 |
| Public Total | 29659 | 158964 | 179864 | 272805 | 36571 | 652103 | 1867949 | 5890 | 158680 | 3693041 | 10327 | 297554 | 5863454 | 211451 | 1288201 |
| Apollo Munich | | | | 735 | 786 | 22785 | 261576 | 833 | 32918 | 221708 | 349 | 19319 | 484019 | 1966 | 75016 |
| Cigna TTK | | | | 1 | 0 | 232 | 9560 | 29 | 1210 | 8083 | 9 | 681 | 17644 | 36 | 2124 |
| Max Bupa | 3 | 1046 | 124 | 267 | 204 | 2776 | 159372 | 466 | 28459 | 72341 | 72 | 5844 | 231983 | 1788 | 37206 |
| Religare | 8 | 1869 | 811 | 1260 | 384 | 9912 | 65751 | 209 | 7884 | 61742 | 71 | 7225 | 128761 | 2533 | 25832 |
| Star Health | 17 | 4426 | 2762 | 5392 | 454 | 9994 | 1046105 | 1696 | 91170 | 580575 | 675 | 38703 | 1634089 | 7252 | 142629 |
| Specialised Health Insurers Total | 28 | 7341 | 3691 | 7655 | 1828 | 45700 | 1544364 | 3234 | 161642 | 944449 | 1176 | 71773 | 2496496 | 13579 | 282806 |
| Grand Total | 29952 | 214366 | 242539 | 305996 | 48301 | 889643 | 4518135 | 12022 | 395213 | 6075122 | 13343 | 482026 | 10929205 | 288032 | 2009622 |

**Exhibit 3: HEALTH INSURANCE (EXCLUDING TRAVEL -DOMESTIC/OVERSEAS AND PERSONAL ACCIDENT)
GROSS PREMIUM AND NUMBER OF PERSONS COVERED (2015-16) (Contd...)**

(No. of Policies in Actuals) (No. of Persons in '000) (Amount in ` Lakh)

| Insurer | Government Sponsored Schemes including RSBY | | | Group Insurance Schemes excluding Govt Sponsored Schemes | | | Individual Family Floater | | | Individual other than Family Floater | | | TOTAL | | |
|-----------------------------------|---|------------------------|---------------|--|------------------------|---------------|---------------------------|------------------------|---------------|--------------------------------------|------------------------|---------------|-----------------|------------------------|---------------|
| | No. of policies | No. of Persons Covered | Gross Premium | No. of policies | No. of Persons Covered | Gross Premium | No. of policies | No. of Persons Covered | Gross Premium | No. of policies | No. of Persons Covered | Gross Premium | No. of policies | No. of Persons Covered | Gross Premium |
| Bajaj Allianz | | | | 2211 | 1210 | 36882 | 170740 | 500 | 14976 | 262597 | 457 | 20765 | 435548 | 2167 | 72625 |
| Bharti AXA | | | | 1474 | 262 | 7394 | | | 19528 | | 36 | 924 | 21002 | 316 | 8319 |
| CHOLA MS | 9 | 1874 | 1141 | 11332 | 1447 | 15519 | 40043 | 136 | 2099 | 26723 | 37 | 1477 | 78107 | 3494 | 20236 |
| Future Generali | | 3976 | 594 | 868 | 297 | 11231 | 16105 | 65 | 1389 | 14028 | 27 | 954 | 31001 | 4364 | 14167 |
| HDFC ERGO | | 71 | | 1257 | 348 | 10333 | 172931 | 435 | 18179 | 282337 | 244 | 28630 | 456525 | 1098 | 57142 |
| ICICI Lombard | 52 | 19200 | 3489 | 3497 | 2518 | 62437 | 109928 | 315 | 17350 | 653053 | 664 | 58491 | 766530 | 22897 | 141767 |
| IFFCO Tokio | 28 | 5226 | 7536 | 962 | 1606 | 26639 | 81819 | 317 | 5890 | 60868 | 85 | 2784 | 143697 | 7234 | 42849 |
| Kotak General | | | | | | | 56 | 0.16 | 6 | 71 | 0.08 | 4 | 127 | 0.24 | 9 |
| Liberty Videocon | | | | 424 | 223 | 5546 | 1436 | 4 | 162 | 4088 | 4 | 186 | 5948 | 231 | 5897 |
| L&T General | 8 | 606 | 702 | 84 | 89 | 961 | 37294 | 113 | 2564 | 33148 | 45 | 2329 | 70534 | 852 | 6556 |
| Magma HDI | | | | | | | | | 1 | 0.001 | 0.05 | 1 | 0.001 | 0.05 | |
| Rabaja QBE | | | | | | | | | 84 | 0.08 | 2 | 84 | 0.08 | 2 | |
| Reliance | 34 | 17074 | 25613 | 898 | 1878 | 18321 | 52724 | 162 | 4856 | 25581 | 27 | 1974 | 79237 | 19141 | 50966 |
| Royal Sundaram | | | | 578 | 388 | 6700 | 71419 | 184 | 5199 | 109632 | 230 | 7751 | 181827 | 802 | 19656 |
| SBI General | | | | 3860 | 2137 | 20611 | 2649 | 16 | 238 | 20821 | 26 | 709 | 27330 | 2179 | 21558 |
| Shriyam General | | | | | | | | | | | | | | | |
| Tata AIG | 10 | 1526 | 3567 | 1574 | 423 | 3543 | 102745 | 224 | 4092 | 38762 | 56 | 4828 | 143091 | 2229 | 16030 |
| Universal Sompo | | | | 3873 | 762 | 7184 | 170328 | 369 | 6156 | 684 | 1 | 14 | 174885 | 1132 | 13356 |
| Private Total | 141 | 49552 | 42841 | 32910 | 13608 | 233304 | 1030217 | 2839 | 83162 | 1552206 | 1940 | 131827 | 2615474 | 67938 | 491134 |
| National | 21 | 75493 | 86903 | 10021 | 5262 | 182105 | 584809 | 1620 | 32715 | 1154480 | 2727 | 101438 | 1749331 | 85102 | 403161 |
| New India | 106 | 62039 | 67200 | 14726 | 10508 | 245391 | 480488 | 1613 | 42584 | 1210877 | 2965 | 128358 | 1706197 | 77124 | 483532 |
| Oriental | 8 | 2469 | 1438 | 2230671 | 5410 | 160471 | 758652 | 2046 | 65221 | 449703 | 910 | 33671 | 1429424 | 10838 | 260798 |
| United India | 142 | 79670 | 47041 | 99502 | 19706 | 270617 | 304349 | 1440 | 31243 | 789670 | 2686 | 62473 | 1193663 | 103502 | 411574 |
| Public Total | 277 | 219671 | 202576 | 347310 | 40886 | 856784 | 2126298 | 6719 | 171763 | 3604730 | 9288 | 325940 | 6078615 | 276563 | 1569065 |
| Apollo Munich | | | | 1036 | 1090 | 29800 | 330059 | 1068 | 42469 | 244925 | 375 | 22236 | 576020 | 2633 | 94505 |
| Cigna TTK | | | | 5 | 9 | 5421 | 33903 | 102 | 4842 | 32681 | 33 | 3319 | 66589 | 144 | 13582 |
| Max Bupa | 3 | 1046 | 425 | 135 | 317 | 3852 | 134069 | 372 | 16180 | 130861 | 306 | 27098 | 265068 | 2040 | 47555 |
| Religare | 0 | 86 | 26 | 1728 | 639 | 16760 | 114297 | 360 | 14944 | 106582 | 116 | 12790 | 222807 | 1198 | 44520 |
| Star Health | 12 | 2917 | 1534 | 5444 | 496 | 14131 | 1316551 | 4394 | 130364 | 669551 | 740 | 48363 | 1991558 | 8547 | 194392 |
| Specialised Health Insurers Total | 15 | 4049 | 1985 | 8348 | 2546 | 69964 | 1928879 | 6297 | 208801 | 1184600 | 1570 | 113806 | 3121842 | 14461 | 394555 |
| Grand Total | 433 | 273272 | 247404 | 388568 | 57039 | 1162052 | 5085394 | 15855 | 463726 | 6341536 | 12797 | 571575 | 11815931 | 358962 | 2444754 |

Exhibit NO :4

ANNUAL REPORT 2016-17

TABLE I.79
INFORMATION ON NETWORK HOSPITALS ENROLLED BY TPAs 2016-17

| Sl. No. | Name of the TPA | No. of Hospitals in the Network at the beginning of the year | No. of Hospitals added to the Network during the year | No. of Hospitals withdrawn/ removed from Network during the year | * Total No. of Hospitals in the Network at the end of the year |
|---------|---|--|---|--|--|
| 1 | United Health Care Parekh Insurance TPA Pvt. Ltd. | 4474 | 191 | 97 | 4568 |
| 2 | Medi Assist Insurance TPA Pvt. Ltd. | 5736 | 501 | 236 | 6001 |
| 3 | MD India Health Insurance TPA Pvt. Ltd. | 9092 | 1510 | 423 | 10179 |
| 4 | Paramount Health Services & Insurance TPA Pvt. Ltd. | 11696 | 2586 | 315 | 13967 |
| 5 | E-Meditek Insurance TPA Limited | 5519 | 186 | 65 | 5640 |
| 6 | Heritage Health Insurance TPA Pvt. Ltd. | 5217 | 980 | 464 | 5733 |
| 7 | Focus Health Insurance (TPA) Pvt. Ltd. | 1948 | 78 | 291 | 1735 |
| 8 | Medicare Insurance TPA Services (India) Pvt. Ltd. | 4578 | 480 | 110 | 4948 |
| 9 | Family Health Plan Insurance TPA Limited | 4655 | 2564 | 144 | 7075 |
| 10 | Raksha Health Insurance TPA Pvt. Ltd. | 4498 | 601 | 34 | 5065 |
| 11 | Vidal Health Insurance TPA Pvt. Ltd. | 6331 | 2128 | 127 | 8332 |
| 12 | Anyuta Insurance TPA In Health Care Pvt. Ltd. | 343 | 110 | 142 | 311 |
| 13 | East West Assist Insurance TPA Pvt. Ltd. | 4156 | 117 | 340 | 3933 |
| 14 | Medsave Health Insurance TPA Limited | 6333 | 162 | 12 | 6483 |
| 15 | Genins India Insurance TPA Limited | 4023 | 285 | 49 | 4259 |
| 16 | Alankit Insurance TPA Limited | 4081 | 83 | 85 | 4079 |
| 17 | Health India Insurance TPA Services Pvt. Ltd. | 4330 | 621 | 43 | 4908 |
| 18 | Good Health Insurance TPA Limited | 4872 | 186 | 55 | 5003 |
| 19 | Vipul Medcorp Insurance TPA Pvt. Ltd. | 9076 | 0 | 309 | 8767 |
| 20 | Park Mediclaim Insurance TPA Pvt. Ltd. | 1934 | 428 | 0 | 2362 |
| 21 | Safeway Insurance TPA Pvt. Ltd. | 4444 | 316 | 309 | 4451 |
| 22 | Anmol Medicare Insurance TPA Limited | 453 | 0 | 0 | 453 |
| 23 | Dedicated Healthcare Services TPA (India) Pvt. Ltd. | 5042 | 1547 | 679 | 5910 |
| 24 | Grand Insurance TPA Private Limited | 1764 | 78 | 0 | 1842 |
| 25 | Rothshield Insurance TPA Limited | 3053 | 219 | 0 | 3272 |
| 26 | Ericson Insurance TPA Private Limited | 3937 | 157 | 0 | 4094 |
| 27 | Health Insurance TPA of India Limited | 1399 | 230 | 9 | 1620 |

* Hospitals may have tied up with more than one TPA

**GENERAL
MANAGEMENT**

A PERSPECTIVE STUDY OF ROLE OF WOMEN IN IT AND ITES INDUSTRIES IN INDIA

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Abstract:

In the previous century, women have battled for such rudiments as the privilege to vote, claim arrive, and build up credit. In late decades, women have battled for a seat at the tables of energy and popularity from the tennis courts to corporate meeting rooms to the corridors of Congress to the space shuttle. Today, the women development is in another, perplexing stage. The under portrayal of women in IT is an exploration segment that has gotten much consideration as of late. Women have gradually climbed to positions of authority in all areas of the economy; in any case, every lady who makes it to the highest point of her field is typically alone once she arrives. Huge numbers of the issues for these women are the same, from inquiries of male mastery to mystery discourse, to segregation to pay disparities. Since the fields and plans are so various, nobody straightforward, arrangement of answers resounds over the board. It is clear, in any case, that women will be instrumental in driving partnerships to new resolutions. Today it will show a scope of point of view on gender and IT. The point is to show a portion of the real verbal confrontations and studies of IT to feature some vital issues of worry for women in position of authority. Be that as it may, as of late IT and ITES has now turned into a natural name. It is an Industry that utilizations PCs, programming projects and correspondence materials to recover, store transmit and secure information. Creating and created nations depend on IT and ITES to guarantee quick advance. Organizations and associations likewise depend on the field for most extreme yield.

Key words: *Women, IT Sector, Business, Challenges, Opportunities, Entrepreneurship*

Introduction:

IT and ITES division in India has assumed a vital part in putting India on the worldwide guide. The IT and ITES part has assumed a huge part in changing India's picture from an ease back moving economy to a place that is known for creative business people and a worldwide player in giving world class innovation arrangements and business administrations. The IT and ITES area has helped India change from a country and agribusiness based economy to a learning based economy. Data Technology has influenced conceivable data to access at gigabit speeds. It has had huge effect on the lives of a huge number of individuals who are poor and living in provincial region.

IT industry is one of the best sources for the people who are with good communication and skill of knowledge. IT sector has risen to become biggest employments generator with number of employments for the men and women. Web has rolled out progressive improvements with potential outcomes of e-government measures like web based business, e-instruction, e-agribusiness, and so forth. Today, regardless of whether its documenting Income Tax returns or applying for visas on the web or aviation routes e-ticketing, it simply require few ticks of the mouse. India's IT potential is on an enduring stroll towards worldwide intensity, enhancing barrier abilities and getting together vitality and ecological difficulties among others. IT and ITES part in India, with the primary spotlight on expanding innovation selection and growing new conveyance stages. The major sector that combine together to contribute service industry like IT trade, Education, Financial services, Media, Hospitality, accommodation and food services, entertainment, culture, transportation, warehousing and storage. Modern businesses are not possible without help of IT and ITES in which is having significant impact on the operations of enterprises and it is claimed to be essential forth survival and growth of economies in general.

The open doors in the IT administrations and ITES division can be characterized among the accompanying general classifications: IT administrations, R&D Services and Software Products, Customer Interaction Services (BPO, KPO), Transaction preparing (Data passage/transformation, Rule set handling, Problem comprehending), Content Development, Knowledge Services (Non-IT), Engineering Design. Different open doors for key utilization of data innovation exist today. More are continually rising lower cost innovation giving noteworthy new abilities. Furthermore, they are progressively being seized upon as focused weights develop. It can be utilized to help endeavor frameworks and e-business applications also. Business experts should know about the accessibility of new advances and ready to assess the money saving advantages and value of each.

The men and women in the IT and ITES industry have vocations, for example, Computer build, developer, researcher, client, database manager, database authority, interface creator, organize expert, programming engineer, analyst, frameworks examiner, Executives and so on. The step by step changing of the IT and ITES industry into a commonly recognized name has been a work of both male and the female sexual orientation. As a short attack into the truth of female monetary strengthening in India, It has chosen to do a little however ideally telling exploration venture on a portion of the biggest corporate players in the Indian IT industry. The point of this exploration is to pick up a superior comprehension of the condition of female business, sexual orientation equity and the subjective experience of being a working lady in a standout amongst the most imperative and quickly developing financial areas in the nation.

Literature Review:

Throughout the years, individuals have adequately received and grasped data innovation in all segments and works of life, and it contributes a critical amount to the advancement of the economy of generally nations. Moreover, it is very momentous to take note of that the establishment and routine with regards to IT and ITES around the globe is a commitment of both the male and female partners, and this is very clear in

most created nations, for example, the United Kingdom, The United conditions of America, China and India.

A broad research done regarding this matter, it is very evident that women have been of high notoriety in this field; it is advertised in an article by Anita Borg: Women investment in Information innovation can be followed back to 1842; when the principal lady software engineer Ada Lovelace who contemplated arithmetic at her young age outlined a report that explained on her thought that the systematic machine an arrangement by Charles Babbage, may be utilized to form complex music, to create illustrations, and would be utilized for both functional and logical utilize. These notes contained a particular for the principal PC program. This note can be depicted as a calculation encoded for handling by a machine. She likewise proposed that the machine that could control images as per decides and that numbers could speak to elements other than amounts describe the fundamental change from count to calculation. A long time after she kept in touch with her article, her thoughts were actualized in building up the principal PC, which throughout the years has changed to the work area and workstations. With her commitment in investigating Babbage's development, she is alluded to the examiner of Charles Babbage's diagnostic motor and the primary PC software engineer. (Borg, 2002)

In India, women feel at home in building. One 2013 investigation of Indian designing understudies asked whether they at any point understood left in a scholarly setting. Around 8 percent of female specialists revealed such emotions, while right around 20 percent of male architects some of the time got a handle on left. In another examination, female understudies portrayed the way of life of processing as one that prizes carefulness, knowledge, friendliness, and common help. In work environment interviews with both genders, humanist Winifred Poster found "an inescapable conviction that women and men have comparative mental capacities to do specialized work" thus "a suspicion that specialized work itself has no sexual orientation." (Chandra, 2014)

Regardless of the expanding number of figuring occupations, enthusiasm for these majors and vocations has consistently declined over the previous decade. Insights demonstrate that more guys have achieved four year college educations and utilized in the business. Be that as it may, female understudies who are selecting in software engineering and graduating with software engineering degrees in the business is relentlessly reducing with just a couple of holding top positions in associations. Mary Lou Roberts recommends that if the present patterns proceed, by 2018 the business might have the capacity to fill half with its accessible occupations with more male competitors holding four year college educations in processing and data sciences (Roberts, 2007).

As times have advanced, there is one segment of Indian women who have grasped the universe of Science and Math to leave a permanent check in their particular fields. There are cases, for example, Kalpana Chawla and Kiran Mazumdar Shaw, who are good examples of women having treaded the uncharted domain and could investigate other specialty useful parts, for example, IT programming and programming improvement.

While it is the part of guardians and educators in our general public to propel the women clique to investigate profession alternatives in the IT business, it is fundamental for Government's concerned offices to embrace exceptional projects to urge women to take up employments in the IT business and make unique arrangements for their entrance in this segment. Moreover, the information in this examination plainly show women are not all around spoke to in the area that constitutes the development instrument of most very created and creating nations.

Thus, the Anita Borg establishment determinedly tries to urge more young women to take up a profession in the business and additionally give more to make it a reasonable industry for the male and female genders.

A report by NASSCOM to decide and comprehend the distinctions in investment rates amongst women and men in the IT and ITES workforce in India, and furthermore benchmarks these inside a universal setting. In 2017, it is evaluated that the quantity of firms that have over 20% women at senior level will increment to almost 60%, and about 51% of firms will have over 20% of women at C-suite level. Remarkably, the report featured that organization sheets with 10% women, have 2.5%-5% higher profits for value. Additionally, the tech division is the second biggest area with women representatives after agribusiness. (NASSCOM, 2017)

“India’s IT-BPM industry currently employs nearly 3.9 million people, of which over 34% women (~1.3 million). The idea of this report is to bring to the forefront, measures and policies supporting women’s progression in at the workplace and the need for the entire industry to come together provide opportunities and support required for their successful career advancement within the sector. This report can be used by the IT and ITES industry as a scorecard to benchmark their gender inclusive policies and practices”, said by Ms. Sangeeta Gupta, Vice President, and NASSCOM.

An investigation of women' portrayal in the IT and ITES workforce in India and furthermore incorporates a diagram of the support of women in Computer Science and IT related subjects in Higher Education. Surviving exploration has analyzed a few factors that add to or potentially increment the enlarging sexual orientation hole.

IT as indicated by Information Technology relationship of America can be depicted as "the examination, advancement, usage, support or administration of PC based data frameworks, especially programming applications and PC equipment" (Answer co-task, 2012). From the above, it can be reasoned that Information innovation manages data distributing and learning administration preparing. In the mid 60's and 70's, places like banks and healing facilities thought about data innovation, and saw then as the system used to store data.

Here an inquiry of writing on investment of women in the business; additionally have analyzed the women who had made their check in IT and ITES. In addition, the exploration focuses to the women investment in IT and ITES has still difficulties throughout the years over the field, in spite of endeavors to pull in and keep them in the field.

Discussion and Findings:

In India, particularly, in the semi-urban and provincial territories, females are as yet not urged to take up Math/Science as their Core subject in school or graduation level. From

this time forward, the female clique does not indicate enough enthusiasm for such subjects, subsequently prompting lesser inclination for IT-related subjects in later years which thus affect the IT segment with lesser female specialists. India has set gifted women laborers generally in employments identified with IT and ITES. There is a shortage as far as female asset with regards to practical parts, for example, developers and investigators. There is an enormous interest for such profiles and women specialists can summon great pay bundles in these parts.

The current occasions and ensuing talks encompassing the ruthless group assault and murder of a youthful Delhi woman on a transport a year ago in Munirka, New Delhi, have provoked exchange in standard talks about the position of women in India, and have lead numerous to examine the treatment of women inside different circles of Indian culture. What has turned out to be progressively obvious after the occasions of that is successful long haul change for Indian women can't be accomplished by harsher outcomes or more thorough transport directions, yet rather through across the board acknowledgment of the normal separation looked by Indian women in their open, private and expert lives. The last circle is specifically noteworthy to the Indian setting, as despite the fact that the most recent two decades have seen an exceptional number of Indian women enter the formal workforce, issues of female monetary strengthening have a tendency to get made light of when compared against the total of the arrangement of separation and savagery looked by women in India.

Case Study: Role of Women at Higher Post

Utilizing NASSCOM's yearly industry evaluations from 2012-2017, we set up together a rundown of the five IT and ITES organizations headquartered in India that showed up in the main five spots no less than twice between the years 2012-2017. These organizations are Tata Consultancy Services Ltd., Infosys Ltd., Wipro Ltd., HCL Tech Ltd., and Tech Mahindra. Here recovered some essential actualities about the Board of Directors and official administration groups of the five Indian IT businesses off of their sites and yearly reports. This short preparatory attack into the business has uncovered that albeit a significant number of these organizations advance sexual orientation fairness in the working environment and women in senior places of specialist, the Indian programming circle keeps on being completely male-commanded. The gathered insights on Board individuals and official administration groups are recorded underneath. It remembers keeping that while the data on the Board of Directors might be very solid (contingent upon how as of late each organization has refreshed their site) and consequently fitting to use as a device of relative investigation, the data on the official administration groups can be deluding, as each organization seems to have an alternate criteria of what constitutes a senior administration group.

1. Tata Consultancy Services Limited

TCS' annual report for the 2016-2017 fiscal year reports a 10 member Board of Directors with one female Non-Executive Director Ms. Aarthi Subramanian is the Group Chief Digital Officer at Tata Sons Limited reporting to the Group Executive Chairman, a professional with over 28 years of experience in the global technology

sector. Ms Subramanian started her career with Tata Consultancy Services (TCS) and worked in diverse roles in India, Sweden, the US and Canada, thereby gaining rich experience in consulting engagements and management of large scale technology programs as well as operations.

Number of women on the Board: 1/10

2. Infosys Limited

Infosys Ltd. has 09 Board members among of them 3 women are Independent Directors.: Roopa Kudva, Dr. Punita Kumar-Sinha and Kiran Mazumdar-Shaw.

Further, Infosys lists 08 individuals in their executive management team, one of whom is Inderpreet Sawhney, Group General Counsel & Chief Compliance Officer.

Number of women on the Board: 03/09

Number of women holding executive management positions: 1/08

3. Wipro Limited

Wipro's Board of Directors is made up of 10. Ireena Vittal is independent Director among of them.

Number of women on Board: 1/10

Number of women in executive management team: 0/16

4. HCL Technology

HCL's Board has 11 members, three of whom are executive members.

Number of women on Board: 3/11

Number of women holding executive management positions: 0/23

5. Tech Mahindra

M. Rajyalakshmi Rao, Director

Number of women on Board: 01/10

Number of women holding executive management positions: 00/17

While these numbers might calm, they are not incredibly low, or even underneath normal. As indicated by The Globe and Mail's eleventh yearly Board Games provide details regarding corporate administration, the level of Board seats held by women on Boards of Directors in the Indian corporate division in 2012 was 5.3%, implying that, at an around 6% of seats held by female individuals, our little example measure is really sitting simply over the Indian normal. Be that as it may, when contrasted with the other BRIC nations at 5.1%, 5.9% and 8.5% individually, India is as yet lingering behind with regards to having women in places of senior expert in the corporate world.

Recommendations:

A developing assortment of confirmation exhibits the significance of Gender in administration incorporating enhancements in authoritative execution and corporate administration. Thus, there is the need to set up hones that would draw in more women into the business and increment the general yield from the Technology area of the economy. It would expand women interest in the business and further improve the yield of the few who are as yet rehearsing. These practices are recorded in the sub-headings underneath:

Establishing Fair and Clear Promotion Criteria

It is important to take note of that the premise on which men and women are judged as fruitful ought to be made not withstanding amid advancement. The two men and women firmly esteem cooperation and understand that joint effort is fundamental for progress. Giving an adjusted workplace and opportunity is basic to holding women in the business. This is on account of in many associations and ventures, the guys are immediately elevated to administrative and supervisory positions while the women kept at their essential parts take a more drawn out time before they get elevated to administrative positions. At the point when there is an open structure for advancement for the two gender orientations, women would give more endeavors into their employments, and this clearly would draw out the best in them.

Introducing successful coaching

Coaching is an essential practice can enable female representatives to build up the aptitudes and certainty they have to go up against more senior parts and give their true abilities at their different work environment. It isn't about the guide educating a particular aptitude; it is tied in with making an intelligent learning condition through discussions amongst coaches and mentees. This would permit the more youthful staffs pick up the certainty and the thoughts they have to investigate issues and create arrangements. Seeing somebody like themselves in a position they seek after, will enhance their working environment experience and give them Job fulfillment.

Improve work environment culture

Another training most associations and enterprises have not paid care to is that of giving a decent working condition to the female representatives. This can be accomplished by giving an on location kid support to carter for nursing moms, giving them more remittances and characterizing a decent compensation installment design. Besides, giving sex particular preparing in authority abilities for women in the association would give substantial advantages. It gives a reasonable message to them that the business sees them as pioneers and is making an interest in them, boosting their certainty and confidence. Associations which hone phenomenal working environment culture claim to, and advantage, men and women, representatives and supervisor.

Conclusion:

It is extremely specific from this exploration paper Women are germane and to the business. Records show that they have contributed massively to the introduction of information advancement and handling in this present age. This exploration paper arranged a count used to diagram the fundamental PC and have changed to the diverse structures we have today. Additionally, in 1893, Henrietta Swan Leavitt joined the Harvard "PCs", a social occasion of ladies possessed with the making of galactic data at Harvard. She was instrumental in divulgence of the Cepheid variable stars, which are affirm for the expansion of the universe. Thusly, it would be a colossal progress if these practices said above completed as this would help the general yield from the field and establish a connection on the young ladies taking up a degree in schools that an awesome arrangement suspects them in the field. It would in like manner give them a sentiment having a place and reinforce coming into the business.

Most features about the gender orientation hole in innovation ordinarily examine U.S. organizations, where the portrayal of women in innovation 23percent is inauspiciously low. Contrasted with this, the circumstance in India, where 34 percent of India's IT workforce is female, appears to be rosier.

The STEM (Science, Technology, Engineering and Mathematics) training pipeline is likewise more different in India, where 57 percent of high-performing women contemplate STEM fields in school, as indicated by a 2013 McKinsey Report. In the U.S., that number is just 4 percent. Be that as it may, these moderately high numbers in India don't recount the entire story. Once these high-performing Indian women graduate and enter the workforce, about 50 percent of women in innovation leave the business pipeline at the lesser to mid-level. This sharp drop off is novel crosswise over Asia, where 29 percent of junior to mid-level women take off.

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TECHNOLY- RESHAPING MARKETING IN THE NEW ERA**Dr. B. B. Goyal**Professor, Unioversity Business School,
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Abstract

Today the world is undergoing a dramatic transition due to the confluence of fast and new technological forces and therefore powerful brands are reshaping businesses, driving new technologies, shifting talent needs and changing human culture. The world economy's operating system is being re-written and society is transforming with monumental change. There are a number of areas where automation software and AI-powered tools are contributing to effective marketing. Technology - from the printing press to the steam engine and the internet - has always been a great force in overturning the status quo. The difference today is the sheer ubiquity of technology in our lives and the speed of change. It took more than 50 years after the telephone was invented until half of American homes had one. It took radio 38 years to attract 50 million listeners. Facebook attracted many million users in its first year and that number multiplied 100 times over the next five years. As fast as technological innovation has multiplied and spread in recent years, it is poised to change and grow at an exponential speed beyond the power of human intuition to anticipate. Artificial intelligence, digital technology and connectivity are changing just about everything we do, from family activities to running businesses, shopping, and even visiting the doctor. Processing power and connectivity are only part of the story. Their impact is multiplied by the concomitant data revolution, which places unprecedented amounts of information in the hands of consumers and businesses alike, and the proliferation of technology-enabled business models, from online retail platforms like Alibaba to car-hailing apps like Uber.

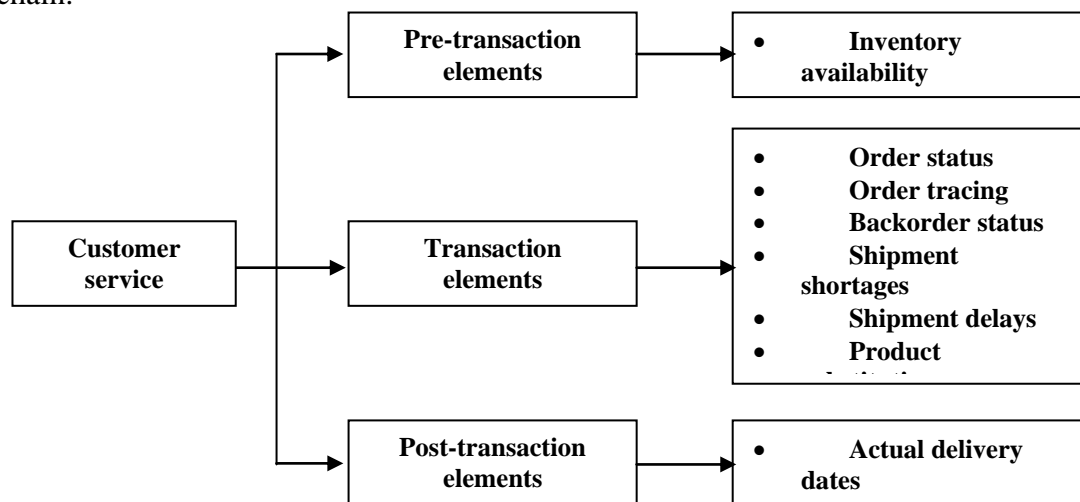
Introduction

Marketing may be narrowly defined as a process by which goods and services are exchanged and their values are determined in monetary terms as price. Simply stated, marketing is the activity, which the manufacturers deliberately undertake and by which they firstly try to understand the consumer needs and wants and then produce and supply the products for some amount of money.

Kotler suggests that the essence of all the functions, which marketing undertakes, is the generation of value to the customer as well as to the marketer. Value is the relationship of benefit sought and cost incurred. If the ratio of benefit sought to cost incurred is positive, the product would exchange hands. This can be expressed in the form of following equation.

$$\text{Customer Value} = \frac{\text{Benefits sought}}{\text{Cost incurred}}$$

Michel Porter in his two books “Competitive Strategy” and “Competitive Advantage” has presented some useful ideas on value creation by business firms. In these books he has proposed that every activity performed by the firm creates some value which reflects finally in the firm’s product offer and that these activities are linked into a chain.



Possible Measures of Customer Service Performance

Technology, and specifically Artificial Intelligence and Deep Learning, are reshaping modern marketing today. Over the last decade, businesses have moved toward greater optimization of marketing tasks—specifically by integrating technology and outsourcing the repetitive tasks to powerful software and sometimes machines. In the early stages, these types of technological advances were restricted to email or direct marketing; however, with the passage of time, the scope has widened—from task performance to data analytics, reporting to decision-making, intelligence to prediction. And that’s where Artificial Intelligence (AI) and Deep Learning come in.

Today, Artificial Intelligence (AI) and deep learning—which is a part of AI—are the two of the biggest disrupters in marketing technology.

Thanks to the mutually amplifying forces, more and more people will enjoy a golden age of gadgetry, of instant communication, and of apparently boundless information. Technology offers the promise of economic progress for billions in emerging economies at a speed that would have been unimaginable without the mobile Internet. Technology allows businesses such as WhatsApp to start and gain scale with stunning speed while using little capital. Entrepreneurs and start-ups now frequently enjoy advantages over large, established businesses. The furious pace of technological adoption and innovation is shortening the life cycle of companies and forcing executives to make decisions and commit resources much more quickly. In the era of such a fast developing and advancing technology, the marketing strategies of businesses cannot remain immune. In this paper some success stories of gaining success by such businesses after reshaping their marketing mixes and strategies has been

discussed and it brings to light as to how it has enabled these companies to achieve a great success.

Some software also helps in the production of marketing material and can help reduce the cost of production and decision-making. Marketers are using the power of machine learning to customize their marketing messaging based upon customer preferences and behavior. For instance, a company might use a customer's purchase history to send a promotional binder that includes printed images of products relevant to their interests. With variable printing, this process can be automated so that each recipient receives a binder specific to their unique, particular interests—significantly faster than trying to achieve the same effect manually.

Customer Experience Management and Marketing

Customer experience is vital for better marketing—whether online or off. Studies indicate that 73 percent of consumers prefer buying from brands that personalize their shopping experiences. In response, e-commerce companies are using artificial intelligence to gain deep analytics about their prospects and personalize their experience based on behavior. To see this in action, visit websites like Amazon and Netflix and see the type of recommendations you're offered based on your search history and/or viewing history.

Technology is helping companies with design, user interface, and journey management. Marketers are not only learning customer behavior, but also crafting a killer user experience/design that engages them and wins business for the company.

Search Engine Optimization

Search engines like Google are using AI to refine search results and provide more relevant results for searchers. However, the story doesn't end there; as AI is also changing the way marketers address consumers' appetite for content. Searchers are relying less on keywords and more on multi-keyword queries. For example, instead of "Italian food", they're likely to say "where can I find the best Italian food in (X location)". As a result, you need to put more focus on queries, answers, and long-tail keywords – and produce content aimed to serve those seeking help from conversational AI.

Dynamic Pricing

The new technology has given rise to a new tool of marketing by dynamic pricing. Marketers can now know the intentions of the consumers by using modern technology and accordingly adopt pricing changes so as to get the maximum out of the market. Discounts have always been a great way to increase sales. The problem is customers who would have paid full price end up paying less, which means fewer profits. Dynamic pricing eliminates this problem by using machine learning to only send discounts to customers who need it to make a purchasing decision. Dynamic pricing also allows you to send different discounts to different types of customers, which allows you to test multiple promotions at once.

Brick-and-Click is a Business Model

Brick-and-Click is a business model in which a company operates both an online store (the clicks) and an offline store (the bricks) and integrates the two into a single retail

strategy. The enablement to do so by modern marketing technology, the following advantages can be drawn by the marketers.

- Customers can see goods in person to assess quality and get advice from knowledgeable staff and enjoy the shopping experience.
- Orders can be picked up at the store or delivered to customers' homes according to their preference and on their schedule.
- Orders can be placed from mobile devices in one's spare time even when there is no access to a PC.
- Customers will sometimes bring returns back in-person, reducing the business' shipping costs.
- Major brick-and-mortar stores can utilize their existing logistics networks for their new ecommerce site.
- Consumers tend to feel safer buying online from businesses with physical stores they have personally visited.

In order to know the level of impact of technology on marketing, 100 Stores are surveyed from the different malls and markets of Chandigarh in following categories and enquired about the different available digital marketing tools and their preferences. The results are depicted in table 1 below.

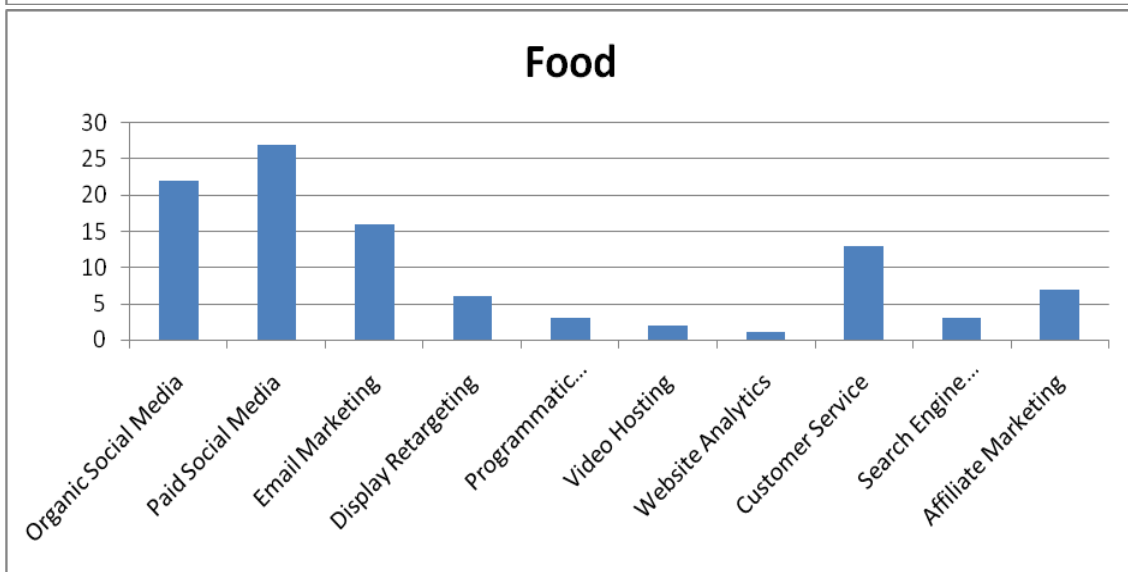
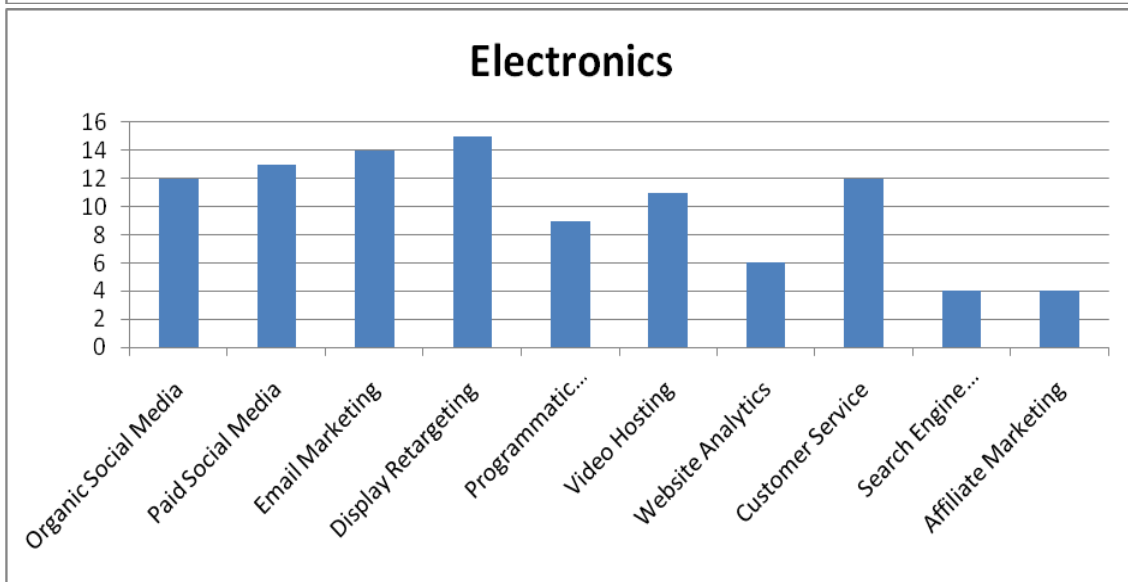
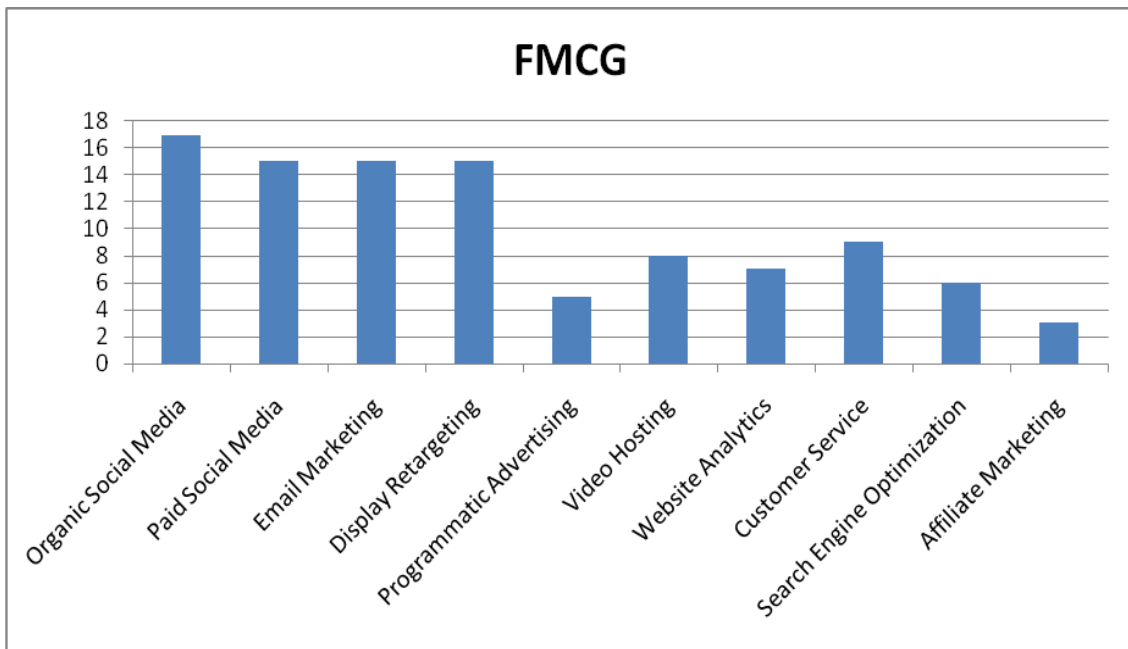
Table 1

| Digital Marketing tools/ technology | Type of Stores | | | |
|-------------------------------------|----------------|-------------|----------|------|
| | FMCG | Electronics | Apparels | Food |
| Organic Social Media | 17 | 12 | 25 | 22 |
| Paid Social Media | 15 | 13 | 22 | 27 |
| Email Marketing | 15 | 14 | 8 | 16 |
| Display Retargeting | 15 | 15 | 4 | 6 |
| Programmatic Advertising | 5 | 9 | 4 | 3 |
| Video Hosting | 8 | 11 | 8 | 2 |
| Website Analytics | 7 | 6 | 8 | 1 |
| Customer Service | 9 | 12 | 5 | 13 |
| Search Engine Optimization | 6 | 4 | 7 | 3 |
| Affiliate Marketing | 3 | 4 | 9 | 7 |
| Percent | 100 | 100 | 100 | 100 |

Source: Primary data.

It is been observed from the collected data that Social media both organic and paid are popular digital marketing tools among all the selected type of stores.

To further explore the category wise usage level of technology for marketing by the retail stores at Chandigarh, the following four charts depict the results.



Conclusion

It is evident from the above discussion that technology and automation are impacting marketing strategy and campaigns. Automation is reducing the cost of doing business, while analytical software is helping to improve strategic planning.

In addition to this, technologies are helping marketers study and understand prospects' behaviour, improving digital experiences and content customization. However, marketers cannot and should not simply rely on automation or AI. Instead, take them as a helping hand that supplements strong business decisions. Artificial intelligence is revolutionizing dozens of industries, and the marketing industry is no different. Marketers are using AI to improve advertising targeting, generate more leads, provide customer service, and improve website design.

A STUDY OF PERFORMANCE OF SPECIAL ECONOMIC ZONES (SEZS) IN INDIA

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Abstract:

Special Economic Zones are considered as growth catalyst of our fastest growing economy. In India, the SEZ policy was formulated by the Central Government in a 2000. The SEZ Act, 2005 came in February, 2006 with the objective of making the Special Economic Zones an engine for economic growth, supported by quality infrastructure and an attractive fiscal package both at the Central and State level with a single window clearance. SEZ is governed and run through the government to promote international trade for improving the economy of the nation. SEZs provide necessary infrastructure and other such accommodations to assist and promote companies within the SEZ to do international trade. The potential of SEZs could not be explored fully in India. Due to this achievement of SEZs could be limited in attracting investment and promoting exports. The government needs to play a more proactive role for effective rationalisation of the full range of benefits from SEZs.

This paper attempts to analyse the performance of special economic zones in respect with an investment, employment and exports in an Indian Scenario.

Keywords: *Special Economic Zone, SEZ Policy, International Trade, Investment, Employment etc.*

Introduction:

The policy of Liberalization, Privatization and Globalization adopted by Government of India has made tremendous change from traditional market to a global free market. These reforms were launched in 1991. Thereafter the Government also introduced reforms in respect of Rainbow revolution, financial reforms and promotion of special economic zones. In the past few years, India has been gradually liberalizing its various policies. One such significant development is the setting up of Special Economic Zones (SEZs). A defining characteristic feature of these SEZs is that they are mostly related to IT and ITES promotion. The recent successes of the BPO companies and the IT boom have guided the objective of setting up of these independent units.

Special Economic Zones Policy was announced in April 2000 with the objectives of making the Special Economic Zones an engine for economic growth, supported by quality infrastructure and an attractive fiscal package both at the Central and State level with a single window clearance. The SEZ concept recognizes the issues

related to holistic economic development and provides for development of self-sustaining industrial townships so that the increased economic activity does not create pressure on the existing infrastructure.

Literature Review:

- 1) **Dr. M. Ayisha Millath and S. Thowseaf (2016)** have mentioned in their research article titled “*Export Performance of Special Economic Zones in India and its Economic Contribution*” about the export performance of SEZs. Authors analyse that SEZs is contributing a significant amount to total export value and the total export contribution is progressing every year linearly. Authors made comparative analysis of SEZs performance with respect to employability and export performance from 2006 to 2016. It was found that employability and exportability level were very less in 2016. Their study also stated that either the government has made surplus investment in SEZs or SEZs in the various states were not effectively utilizing the SEZs facilities so both situations have led to underperformance of SEZs in recent times.
- 2) **Kanwar Singh (2013)** examines in his research paper “*Overview of Special Economic Zones (SEZs) with a Special Reference to Haryana*” about the position of SEZs in Haryana state. The 124 notified SEZs in Haryana. It has listed out the various operational SEZs and projects involved with it. The state has 67 approved SEZs which will become operational in near future. The author concluded that SEZs helped to improve the international trade and attracted foreign investment which contributed towards the growth of Indian economy.
- 3) **Madhumita Dutta (2009)** study in her research paper titled “*Nokia SEZ: Public price of Success*” about the government claims that the special economic zones will bring in investment, increase exports, economic activity and create employment. The Nokia SEZ is one of most successful SEZs of India which has increasing exports and generating employment. The researcher find out the reality that the figures indicates that investment in Nokia SEZ is entirely paid by public subsidy, employment generation is below projections and most of their production is sold in domestic market.
- 4) **Aradhna Aggrawal (2006)** examines in her research paper about the pros and cons of the SEZ policy in the article entitled, “*Special Economic Zones: Revisiting the Policy Debate a discussion of the pros and cons of the controversial SEZ policy*”. Researcher discusses Indian experience with SEZ policy. Author analyses the contribution of SEZ in attracting Foreign Direct Investment, promotion of exports etc. Author makes comparative analysis of various arguments for against SEZ viz. relocation, revenue loss, land acquisition, loss of agricultural land, misuse of land for real estate, etc.

Objectives of the Research Paper:

The study was conducted to fulfill the following objectives:

1. To study the concepts of Special Economic Zones.
2. To analyse the performance of SEZs in respect with an investment, employment and exports in an Indian Scenario.

What is a SEZ?

Special Economic Zones are the versions of previous export processing zones. A Special Economic Zone (SEZ) is defined as a specially delineated duty free enclave for trade operations. SEZs are the areas within the domestic territory of India that is treated as foreign territory in the context of Trade and Tariff. It facilitates exports through special tax treatment to the units operating within the SEZ.

SEZs are the geographic regions designated for the economic development of the country with the intention of increasing FDI and exports with the support of special incentive policy of the government.

1. "SEZ is a specially designed tax free section, which is assumed to be the foreign land according to trade and import export charges."
2. Chapter 7 of 'Foreign Trade Policy (2004-09)' announced on 31.04.2004 defines SEZ as "SEZ is a specifically delineated duty free enclave and shall be deemed to be foreign territory for the purposes of trade operation, duties and tariffs".
3. Maharashtra Govt. Resolution No. 2001/152/2 dated 12/10/2001 Paragraph 12 says "The State Govt. shall take appropriate steps to declare the SEZ as industrial townships to enable the SEZ to function as self governing autonomous Municipal Bodies."
4. "The objectives of SEZ are making available goods and services free of Taxes and Duties supported by integrated infrastructure for exports production, quick approval mechanisms and packages of incentives to attract foreign investments for promoting exports."

Objectives of SEZ:

The objectives behind an SEZ are to enhance foreign investment, increase exports, create jobs and promote regional development. The main objectives of setting up SEZs by Government are:

- (a) Generation of additional economic activity;
- (b) Promotion of exports of goods and services;
- (c) Promotion of investment from domestic and foreign sources;
- (d) Creation of employment opportunities;
- (e) Development of infrastructural facilities.

Research Methodology used in present research:

For the purpose of the present research, secondary data has been used. For secondary data, books, research journals, news papers related to SEZs etc. are used.

Statistical Tools:

For the purpose of analysis, percentile method was used as a statistical method.

SEZs in India:

Special Economic Zones (SEZs) are specifically delineated duty-free enclaves treated as a foreign territory for the purpose of industrial, service and trade operations, with

exemption from customs duties and a more liberal regime in respect of other levies, foreign investment and other transactions

India was the first country to establish EPZ, at Kandla, in the Asia Pacific region in 1966. The proposal for setting up the Kandla Free Trade Zone (KAFTZ) was mooted in 1961, with the objective of facilitating the development of the Kutch region, to ensure greater utilization of Kandla Port and to create employment opportunities in the Kandla-Gandhidham area.

In the late 1990s, when the then Commerce Minister of India, late Murasoli Maran, visited the Special Economic Zones (SEZs) in China, he was inspired by what he saw. Accordingly, The Government of India (GoI) first introduced the concept of SEZ in the Export -Import Policy 2000 with a view to provide an internationally competitive and hassle free environment for exports. Since the performance of EPZs fell far short of expectations due to various reasons, the SEZs were conceived as a much larger and more efficient form. The policy provides for setting up of SEZs in the public, private, joint sector or by State Governments. All existing FTZ/ EPZ have been converted into SEZ.

SEZs are governed by SEZ Act, 2005. The Act consists of 8 chapters, 58 sections and 3 schedules. The policy relating to SEZ is contained in Special Economic Rules, 2006 notified in the Gazette of India, Extraordinary No. GSR 54 (E), dated 10.2.2006.

State-wise distribution of approved SEZs (as on 01.12.2017)

| States/UTs | Formal Approvals | In-principle approvals | Notified SEZs | Exporting SEZs (Central Govt. + State Govt./Pvt. SEZs + notified SEZs under the SEZ Act, 2005) |
|----------------|------------------|------------------------|---------------|--|
| Andhra Pradesh | 29 | 4 | 25 | 20 |
| Chandigarh | 2 | 0 | 2 | 2 |
| Chhattisgarh | 2 | 1 | 1 | 1 |
| Delhi | 2 | 0 | 0 | 0 |
| Goa | 7 | 0 | 3 | 0 |
| Gujarat | 28 | 4 | 24 | 19 |
| Haryana | 24 | 3 | 20 | 6 |
| Jharkhand | 1 | 0 | 1 | 0 |
| Karnataka | 62 | 0 | 51 | 26 |

| | | | | |
|--------------------|------------|-----------|------------|------------|
| | | | | |
| Kerala | 29 | 0 | 25 | 19 |
| Madhya Pradesh | 10 | 0 | 5 | 4 |
| Maharashtra | 57 | 11 | 50 | 28 |
| Manipur | 1 | 0 | 1 | 0 |
| Nagaland | 2 | 0 | 2 | 0 |
| Odisha | 7 | 0 | 5 | 4 |
| Puducherry | 1 | 1 | 0 | 0 |
| Punjab | 5 | 0 | 3 | 3 |
| Rajasthan | 9 | 1 | 8 | 4 |
| Tamil Nadu | 50 | 3 | 47 | 37 |
| Telangana | 64 | 0 | 57 | 30 |
| Uttar Pradesh | 24 | 1 | 21 | 12 |
| West Bengal | 7 | 2 | 5 | 7 |
| GRAND TOTAL | 423 | 31 | 356 | 222 |

Source: www.sezindia.nic.in

The State-wise distribution of approved SEZs of all the states in India is mentioned by the Ministry of Commerce and Industry (Department of Commerce), Telangana topped with 64 formal approvals of SEZs, closely followed by Karnataka with 62 and Maharashtra stood at third with 57. 86.76% formally approved SEZs are located within 9 states only. Out of 222 Exporting SEZs, 197 (i.e. 88.74%) are located within these 9 states. The objectives of the SEZ, i.e. balanced employment generation, infrastructural development and balanced regional growth are not achieved in a way it was projected. There is still a substantial scope for other states to take proactive steps in order to be inclusive in the development process.

Sector-wise Distribution of approved SEZs (as on 01.12.2017)

| Sectors | Formal approvals | In-principle approvals | Notified SEZs | Exporting SEZs (7 Central Govt. + 11 State Govt./Pvt. SEZs + notified SEZs under the SEZ Act, 2005) |
|---|------------------|------------------------|---------------|--|
| Agro-processing | 5 | 2 | 5 | 1 |
| Airport based multiproduct | 2 | 0 | 0 | 0 |
| Auto and related | 1 | 1 | 1 | 1 |
| Aviation/Aerospace/ Animation & Gaming/ Copper | 6 | 1 | 5 | 4 |
| Beach & mineral/ metals | 2 | 0 | 2 | 1 |
| Biotechnology | 23 | 1 | 16 | 3 |
| Building prod./mal./ transport equipments / ceramic and glass | 2 | 2 | 2 | 2 |
| Electronic product/Industries | 2 | 0 | 2 | 2 |
| Engineering | 13 | 1 | 13 | 13 |
| Footwear/Leather | 5 | 0 | 5 | 3 |
| Food Processing | 3 | 0 | 2 | 2 |
| FTWZ | 9 | 4 | 5 | 4 |
| Gems and Jewellery | 6 | 3 | 3 | 3 |
| Handicrafts & Carpets | 3 | 0 | 2 | 2 |
| IT/ITES/Electronic Hardware/ Telecom equipments | 274 | 0 | 234 | 129 |
| Alumina/Aluminium | 2 | 0 | 2 | 1 |
| Light Engineering/Metallurgical Engineering /Automotive Components | 1 | 0 | 0 | 0 |
| Multi-Product | 20 | 9 | 17 | 23 |
| Multi-Services | 7 | 1 | 7 | 2 |

| | | | | |
|--|------------|-----------|------------|------------|
| Non-Conventional Energy | 2 | 0 | 2 | 2 |
| Petrochemicals & petro./oil and gas | 2 | 1 | 0 | 0 |
| Pharmaceuticals/chemicals | 16 | 2 | 16 | 12 |
| Port-based multi-product | 4 | 1 | 3 | 2 |
| Power/alternate energy/ solar | 3 | 1 | 3 | 3 |
| Textiles/Apparel/Wool | 7 | 1 | 7 | 7 |
| Writing and printing paper mills | 1 | 0 | 1 | 0 |
| Granite processing Industries and other allied machinery/ manufacturing | 2 | 0 | 1 | 0 |
| GRAND TOTAL | 423 | 31 | 356 | 222 |

Source: www.sezindia.nic.in

The Sector-wise distribution of approved SEZs shows that 64.76% shares are in formally approved SEZs from IT/ITES/Electronic Hardware/Telecom equipments sector. Other major sectors are biotechnology, Multi-product, Pharmaceuticals /chemicals and Engineering are having 17.02% shares in formally approved SEZs. Out of 222 Exporting SEZs, 129 (i.e. 58.22%) are within IT/ITES Sector. It indicates that India is growing in IT/ITES/ Electronic Hardware/Telecom equipments sector. This can be attributed to the increase in IT/ITES related activities in India.

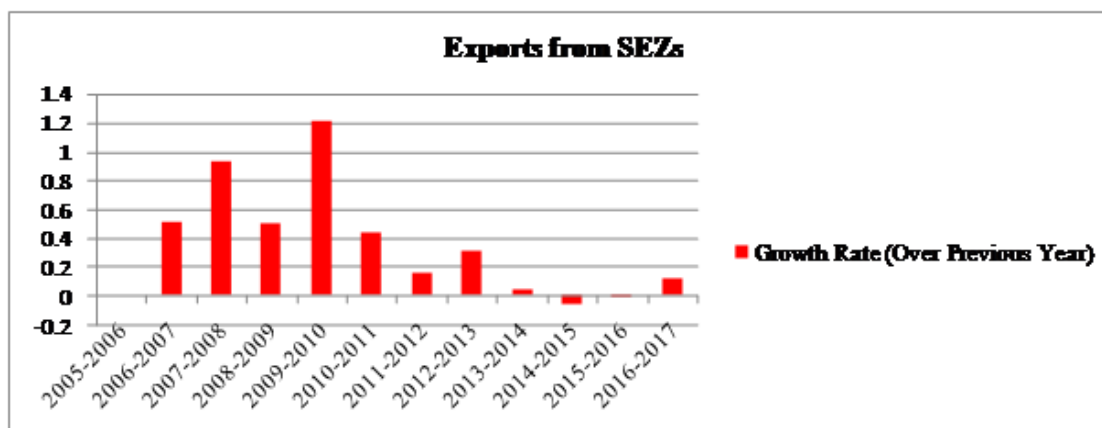
SEZs: ANALYSIS OF PERFORMANCE

1) Exports:

| Years | Value (Rs. Crore) | Growth Rate (Over Previous Year) |
|--------------|--------------------------|---|
| 2005-2006 | 22,840 | - |
| 2006-2007 | 34,615 | 51.55% |
| 2007-2008 | 66,638 | 92.51% |
| 2008-2009 | 99,689 | 49.60% |
| 2009-2010 | 2,20,711 | 121.40% |
| 2010-2011 | 3,15,868 | 43.11% |
| 2011-2012 | 3,64,478 | 15.39% |
| 2012-2013 | 4,76,159 | 30.64% |
| 2013-2014 | 4,94,077 | 3.76% |

| | | |
|-----------|----------|--------|
| 2014-2015 | 4,63,770 | -6.13% |
| 2015-2016 | 4,67,337 | 0.70% |
| 2016-2017 | 5,23,637 | 12.05% |

(Source: www.sezindia.com and Factsheet of SEZs)



The above analysis shows that exports growth remained volatile from 51.55% in 2006-2007 to 121.40% in 2009-2010. From 2010-2011, exports show declining growth rate up to 2014-2015, but it has increased upto 12.05% in the year 2016-2017. However, the exports from SEZs increased rapidly during the period 2005-2006 to 2017-2018 i.e Rs. 22,840 Cr. to Rs. 5, 23,637 Cr. It indicates that the positive improvement and substantial growth in the export performance from SEZs since 2006, thereby it is facilitating the economic growth of the country.

2) Employment:

| Years | Incremental Employment | Growth Over Previous Year (%) | Total Employment | Growth Over Previous Year (%) |
|---|------------------------|-------------------------------|------------------|-------------------------------|
| 2006 (as on February, 2006) | 1,34,704 | - | 1,34,704 | - |
| 2007-2008 | 2,01,531 | 49.61 | 3,36,235 | 149.61 |
| 2008-2009 | 2,52,735 | 25.41 | 3,87,439 | 15.23 |
| 2009-2010 | 3,68,907 | 45.97 | 5,03,611 | 29.98 |
| 2010-2011 | 5,41,904 | 46.89 | 6,76,608 | 34.35 |
| 2011-2012 | 7,10,212 | 31.06 | 8,44,916 | 24.88 |
| 2012-2013 | 9,40,200 | 32.38 | 10,74,904 | 27.22 |
| 2013-2014* | 11,05,141 | 17.54 | 12,39,845 | 15.34 |
| 2014-2015** | 12,15,367 | 9.97 | 13,50,071 | 8.89 |
| 2015-2016 | 13,07,612 | 7.59 | 14,42,316 | 6.83 |
| 2016-2017 | 14,56,677 | 11.40 | 15,91,381 | 10.33 |
| 2017-2018 (as on 30 th September 2017) | 16,88,747 | 15.93 | 18,23,451 | 14.58 |

Source: Report of the Comptroller and Auditor General of India (2012-2013), www.sezindia.nic.in and Factsheet of SEZs * as on 31st December 2014, ** as on 30th September 2014

Incremental employment has shown growth rate of 49.61% in 2007-2008. It has shown an increasing trend from 25.41% in 2008-2009 to around 46.89% in 2010-2011. However, incremental growth rate registered a decline from 2013 to 2016 on account of continuous de-notification of number of SEZs as a result of several adverse market conditions. SEZs have generated employment from 1, 34,704 employees in 2006 to 18, 23,451 employees in 2017-2018 (i.e. more than 13 folds). However, SEZs has created an employment but there is a shortfall between the projected and actual employment.

3) Investments:

(Rs. in Crore)

| Years | Incremental Investment | Total Investments |
|---|------------------------|-------------------|
| 2006 (As on February, 2006) | | 4,035.51 |
| 2007-2008 | 73,173.99 | 77,209.50 |
| 2008-2009 | 1,04,867.48 | 1,08,903.00 |
| 2009-2010 | 1,44,453.11 | 1,48,488.62 |
| 2010-2011 | 1,98,774.03 | 2,02,809.54 |
| 2011-2012 | 1,97,839.25 | 2,01,874.76 |
| 2012-2013 | 2,32,681.64 | 2,36,716.65 |
| 2013-2014 | 2,84,441.47 | 2,88,476.48 |
| 2014-2015 (as on 30 th September 2014) | 3,76,248.49 | 3,80,284.00 |

Source: Report of the Comptroller and Auditor General of India (2012-2013) and Factsheet of SEZs

Incremental and Total Investments in Year 2017-2018 as on 30th September, 2017) (Rs. in Crore)

| INVESTMENT | Investment (As on February, 2006) | Incremental Investment | Total Investment (As on 30 th September, 2017) |
|------------------------------------|-----------------------------------|------------------------|---|
| Central Government SEZs | 2,279.20 | 15,662.35 | 17,941.55 |
| State/Pvt. SEZs set up before 2006 | 1,756.31 | 11,019.52 | 12,775.83 |
| SEZs Notified under the Act | 0 | 4,18,115.05 | 4,18,115.05 |
| Total | 4,035.51 | 4,44,796.92 | 4,48,832.43 |

Source: www.sezindia.nic.in and Factsheet of SEZs

The above table shows that total investment in the SEZs is Rs.4, 48,832.43 crore. Incremental investment in the SEZs is Rs.4, 44,796.92 crore since SEZ Act coming into force in February, 2006. Investments in the SEZs increased from Rs. 4,035.51 crore in February 2006 to Rs. 4, 48,832.43 cr. in 2017-2018 i.e. 11 times. Investments have shown a positive growth rate over a period of time. However, its growth rate did not remain consistent owing to several unfavorable changes in the domestic and global market.

Conclusion:

SEZs are generating a significant amount through the export. SEZs have resulted in positive outcomes in the country in terms of employment, exports and investments, yet the objectives of the SEZ is employment generation, investment, exports and economic growth, however, are not achieved in a way it was projected. There is still a substantial scope to take proactive steps in order to be inclusive in the development process. The achievements of SEZs in the country are a contribution from a few SEZs operating in a few developed States. Considering the significant shortfalls in achievement of the intended socio economic objectives by all the sectors of SEZs, there is an urgent need for the Government to review the factors hindering the growth of non-operational and underperforming SEZs. There is a need to retrospect the policy framework and its implementation for better outcome of the SEZs.

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A PERSPECTIVE ON E- COMMERCE AND ALLIED ASPECTS

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The dynamic nature of e- Commerce business itself changes consumer behavior and shifts in technology will make it crucial to have leaders who are ready to face any scenario and are able to steer the ship successfully ; when the need arises. Therefore there is a consistent need of learning. Hence encouragement of entrepreneurial thinking is not only essential but indispensable as well. If one has to adapt the fast changing world; then educating more vigorously is having it's own significance. Refurbish your skill set. Construct professional relationship. Move for technical advancement. For combating opportunity. Throw light on your Production cleverness to continue to exist.

Change is a lively and vibrant progression. Its' velocity is amazing. It has wider implications. Bubbles are formed and erupted. Education is a have got to be for attaining desired state of economic advancement. As the economic cycle changes ; tangible and intangible ; controllable and uncontrollable factors in the conditions and surrounding have an influential impact and impression on the financial status of the business. At one time financial position becomes precarious and a situation may arise ; that trade may collapse.

Decision makers therefore think about reformation – restructuring – realignment of the business. In the possible – cleanest and most sweeping way. Once the way of action is charted out; it has a sway on the associate ; may be in a straight line or openly and indirectly as well. Hence empathy is a pre requisite Empathy is a virtue that is rare to find and tough to inculcate. Empathy is the ability to recognize , to perceive and experience the outlook ; emotions; of another being – in oneself. A sort of emotional resonance. Empathy guides us in our action. A person having empathy has an overriding desire to alleviate the suffering of others. Empathy is the balm for discomforting souls. Empathy is the soul for all round happiness. We often mistake pity for empathy. [Hindustan Times Dt. 15th July 2017]

One has to consistently learn and acquire knowledge and use it in the application ; with wisdom. It is the province of knowledge to speak and it is the privilege of wisdom to listen. As the span of business cycle shrinks ; correction comes in the market; some believe that laying off is a business contingency and easiest way to share up. Others say ; cutting head count damages employer branding. Take a hair cut in their fixed compensation. When you lay off ; the market and the investors reward you. Because it is time cost. Share price goes up; tangible in the stock market. But freeze in the salary – pay cutsis not that they value. [Economic Times]

The 'IT' and 'ITES' industry is going through a rapid disruption with a move towards automation and digitization . Employees diversity is a key to innovation Teams that consist of individuals with diverse world views ; always almost out perform those ; that are homogeneous, In the decline phase of life cycle; one must note it. There is a

fierce competition at the global level. We witness diversity of thoughts and dynamic teams. People have different ideas. .. different background ... different experience Personalities . If the combined experience is vast; the range of decision making options will be much larger. When men and women are put together in the team; the inevitable result is alternate and when put together ; it is potentially more innovative.

An unconventional career is usually driven by a keen interest and / or a strong purpose. It is not for everybody. It is not for any body. It is for everybody because we all have unique passion ; unique configuration of creative talent [s] ; values and strengths. However it is important to know your weaknesses to decide how to use inherent abilities to build an unconventional career. You need to break your socially acceptable rules. Let go insecurities and embark on an adventure with no focus on material benefit. Weigh your options before making a decision. [Times of India Dt. 18th June 2017].

Leadership has acquired negative connotation . Particularly in politics [Then it may be even at office / corporate level]. It is therefore advisable to be away from organizational politics.

Artificial Intelligence has become buzz word ; in the present era. Bosses are more likely to groom rather than guide at advances in artificial intelligence they need a strategy But few companies hope to own a unit ; like Googles. Deep mind whose algorithm does not only beat but is the best.

If artificial intelligence does the bedrock of corporate technology , there would be room for several models. It is disconcerting that power in the hands of few tech-zars being used to flaunt up a utopian vision of an AI. [Indian Express Dt. 30th June 2017]

The cycle of perform – reform - transform is going on ceaselessly. The creative process is instilled in one's DNA ; has to be allowed to blossom. But note that ‘ ethics ‘ is not rules based on laws. Ethics is based on goodness.

Marketing out youthful old age as a distinct phase of life might have a similar effect prodding employer and policy maker to think differently about how to keep the young old achieve. As life becomes longer ; the word ‘retire’ ; which means withdrawal is a place of seclusion ; has become misleading . [Indian Express Dt. 11/07/2017]

At the age of 65; you are not clapped out. But pre – retired. So they can embark on next stage and can contribute to e – business. Working from home ; can be considered as an incentive. But is it working ? Recent opinion survey states that - employees take advantage. Technology ; such as chat programme made remote work flexible. For many white color workers. ; in the last couple of decade. Employees love flexibility. Parents in particular say ; - it is important. Work has become more time based. Some organizations have found that most lenient ‘ work from home’ policies kept workers too isolated for that kind of work [Times of India 17/07/2017] In multi national companies ; people from different race - religion –region – caste – creed – community – language ; work together. Sometimes foreign employees are also a part of the work force. They complain that they have a bitter experience on account of racism, discrimination, segregation , neglect cultural shocks, limited degree of interaction. .the e- commerce leader has to apprehend has to apprehend these

challenges. And try to seek the optimum solutions so that harmony and homogeneity can be maintained.

At the strategic location at present ; robotic cats are armed with AI [artificial intelligence]; to help seniors without overblown promises. (Ref: 'Hindu – 20/02/2017) This is the time; when we have to think to adopt the new technology on time. When it comes to strategizing for a technological revolution. In it's sphere ; trust is significant. Trust is always at a strategic advantage. It is an invisible power that can transform a mediocre in to a world beater. Trust is made up of three elements. 1] competence 2] attitude and 3] faithfulness to increase the trust quotient ; there should be encouragement and empowerment to lead without title. It should be practiced and promoted at all levels. (Ref: 'Hindu' 27 /12/2017).

I feel; incidentally ; the opinion of Barrack Obama is worth to be noted. He vindicated about social media communication. ----- the way people communicate on social media via social media risked splintering society and leaders have to ensure that internet do not cocoon users within their own biases. All of us ; in leadership ; have to find ways in which we can recreate a common space on the internet. They can just be cocooned in information that reinforces their current biases. Social media should promote diverse views in a way that does not lead balkanization of our society. [Ref : Indian Express 28/12/2017.]

We know while inspiring and activating the followers, leader endeavors; different styles by varying the stress on relation orientation' and human relation orientation; undoes tedly and unquestionably the prevalent situation plays a vital role in this process.

Leadership need to adopt a style that does synchronizes the desired performance of readiness of their subordinates

Readiness follows person readiness also peruses varying tasks the subordinates have different varying tasks . the subordinates have different states of motivation and the ability – capability – capacity to perform different tasks .

A leader is required to be agile, alert and vigilant of these shifting levels of readiness this shifting levels vary according to personalities, events, situation thus the leader has to keep him; highly attune to existing circumstances and prevailing situations.

There are three eye blinkers. Viz impulse, awareness and choice and the resultant outcome is behavior of human being by and large; people – mostly – are super planners and inferior doers.

One must have the knowledge that situation changes constantly thus the leader should fine tune their leadership style to suit followers readiness

The practicing managers follow different paths. Those are illustrated briefly here directing step by step – sequential activities.

Coaching – two way communication. Supporting – dialogue; discussion Motivating to do more and more Widening the scope for proving the ability . Confidence level enhancing

[This is done by delegating and empowering with support.

As stated above the leader must be alert. In other words the leader must be able to read human beings, circumstance the repurcation like a book for the purpose of comparison – corrective action computation is essential

The refore gauge your need and select your style One of the recent tools used is spark for illuminationg follorrers for illuminating results.

SPARK is an acronym of:

- Sustainable
- Process through
- Application of
- Research and
- knowledge

The result is synergyduplication is not synergy. The simple, straight Forward, communicationpays a lot One kind who One thing is to be noted by the situational leaders. Opportunities follow efforts, Efforts follow struggle (hard work, It does not come before. Success is not something, that happens success is practiced and then shared.

In a particular situation which is challenging, crucial, complex – the leader must create his identity in such a way – where other person gets sure that neglecting you, ignoring you, leaving you – is only their loss.

Many leaders fail to distinguish between their conviction and escalation of their commitment, Conviction is needed to trait in a leader – because his new ideas are going to be challenged.

The present era of technology , Human make technology and it can be cracked by humans. Data can be secured by punitive privacy law- not technology alone.

The situational leader has to focus on proper manning, He has to hire people who refreshing and bolder for your contembory / current organizations culture. They are talented and complement the existing culture.

When performance has clear and immediate consequences – we rise to occasion, We create our own environment, We do not allow to recreate us.

In the environment, we observe volatility, we witness uncertainty, We see complexity. We visualize ambiguity, We experience, there are unintended consequences of good intentions. The situational leader sometimes keep low profile. Because words are a kind action.

So by not speaking we take recourse to non action. Interestingly in certain events. Moments, occasions, non action can result significantly better than action which is being persued.

Another important factor is connected with ‘Z’ generation. They are young but have come of age quickly. They are hungry for growth and are not afraid of taking business risks. They have an entrepreneurial zeal and are reinventing age old practices and promoting technology to meet challenges. Speed of doing things, heavy dependence on technology and huge onus on performance are their other characteristics.

Reskilling employees is a pressing requirement, as technology disrupts the traditional way of doing things, imparting business processes and tendering existing skill sets obsolete ways so the question is how to tackle such a situation.

1) Make a detailed conversation and deliberation. Communicate positively along with a transition which describes owners and the time frame for facilitating change.

2) Define outcome.

Throwing sharp light on quantifiable results will ultimately result in enhanced learners engagement and promote to proficiency based outcome.

3) Understand the importance of time and therefore set the time frame. Till the time, institutes realize that they need to earmark a small but definite chunk of time for every employees skill development.

Action is essential. Otherwise the blue print will remain only on paper. It is indispensable that every person will have crystal clear blue print alongwith time schedule and action to be taken to upgrade skills.

4) Digital Learning

Flexibility in the mode of learning is to be known to every employee with the increasing awareness, advent of technology, this is possible and easy through the digital mode.

5) Training – Coaching – mentoring- teaching is an incentive.

These tools assist in shaping the desired administrative level, coupled with academic and theoretical knowledge

What do we see in the present scenerio ? Rapid growth, Globalization is increasing. Entrepreneurship is enhancing, Organizations are transforming. Organization structure, people practices, work culture, people expectations from their employers are changing. Good, effective, impactful leaders are situational managers.

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While writing this article, articles in Times of India, economics Times, Hindu newspapers have been referred. The deliberation / discussion with people in this field have also influenced.

E-GOVERNANCE SERVICE DELIVERY- AN ASSESSMENT STUDY IN MAHARASHTRA STATE

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INTRODUCTION:

India is a country of villages where multiple e-Governance initiatives are planned and implemented at various levels but not all are successful. There are several challenges and reasons of failure of e-Governance implementation in India. At this backdrop, it becomes imperative to carry out an assessment of one of the oldest e-Governance initiative "SETU" implemented in all 36 Districts and sub districts in the state of Maharashtra. The service delivery, citizens' satisfaction, gaps in the system, accomplishment of the objectives set by the government etc. are evaluated.[Warale & Diwakar,2015]

The data was collected using the multistage sampling technique from three districts namely . Pune, Satara and Sangli and three sub districts within each of them (i.e.total 9 sub districts). Total sample size for study was derived to 977.Total two hypotheses were formulated and were tested using z test of proportion and kruskal Wallis test .

Researcher has also proposed an e-Governance maturity model suitable for Indian environment that assists in building e-Governance system for whole country using multi stage approach with functionality and technology being clearly specified for each stage. [Warale & Diwakar,2016]. Next section discusses objectives of study.

OBJECTIVES AND HYPOTHESES OF THE STUDY:

1. To study and analyses e-governance initiative SETU for service delivery mechanism
2. To identify gaps existing in the management of SETU & suggest solutions for improvement.
3. To propose e-governance maturity model that will help in developing an integrated citizen centric multistage intelligent system suitable for Indian environment.

This model will be in accordance with latest developments in e-governance at state and national level so as to assist in developing e-governance projects in a standardized way.

HYPOTHESES OF THE STUDY:

H1: e-Governance services are provided in a non-integrated manner.

H2: Disgruntlement among citizens is high due to absence of application tracking mechanism.

The next section discusses the literature at international ,national and local level.

LITERATURE SURVEY:

This section presents the literature survey of e-governance progress at international, National and state level.

International Level: In this section the current status of e-Governance in various countries of the world is presented [UN's e-government survey, 2014]. The Republic of South Korea, USA, UK, New Zealand, Spain, Norway, Estonia, Denmark and Israel are among the few that come close to a pure one-stop shop portal with information, services and user participation integrated into one site. Despite progress, there remains an imbalance due to presence of digital divide between developed and the developing countries, especially in Africa due to lack of e-infrastructure, Rwanda, Cambodia, Yemen and Kiribati can be grouped together as least developed countries.

[WU Hong (2014), United Nations e-Government Survey 2014, Prepared by United Nations Department of Economic and Social Affairs (UNDESA), and Retrieved from <http://www.un.org/desa>].

National Level:

As far as India is concerned the government of India has launched the Digital India project in July 2015 to ensure that government services are made available to citizens electronically by improving online infrastructure and by increasing internet connectivity. The project includes broadband in 2.5 lakh villages, Wi-Fi in 2.5 lakh schools and all universities, public Wi-Fi hotspots for citizens and job creation [DEIT's Digital India Policy Report, 2015]. e-Kranti: SWAN, NKN (National Knowledge Network), NOFN (National Optical Fibre Network), e-Sangram, Meghraj cloud and national data center [DEIT's e-Kranti DPR, 2015]. Digital Locker are some of the noteworthy initiatives implemented across Indian villages. [(2015, October), Retrieved from October, 2015 <http://www.digilocker.gov.in>]

Maharashtra State Level:

At Maharashtra state level many e-Governance initiatives have been implemented at district and block but not all initiatives were successful. Some initiatives were partially implemented, were not integrated and most importantly were never evaluated. The researchers have carried out in-depth study of one of the oldest and one of the wide spread initiatives "SETU" and reported findings in this paper. Next section explains background of SETU.

BACKGROUND STUDY OF SETU:

SETU was started by Department of IT, GoM in 2002 and was implemented in the entire Maharashtra state. It offers services such as Nationality certificate, Caste certificate, Non-Creamy Layer certificate, Income certificate, Adivasi dakhala to name a few. SETU is implemented and runs on BOT (Built operate and transfer) basis with standardized application and certificate formats, prescribed by GoM. This has resulted in decentralized, heterogeneous software installed at all SETU centers, known as "SETU Suvidha Kendra/centers".

Later in 2008, the central government and GoM together introduced "Maha e-seva Kendras" to provide similar services (but less than 10 of them were offered) in entire Maharashtra. Actual implementation of the scheme started in 2010. The software used is a single homogenous web based system running at all centers. The operators

do online submission of service requests on behalf of the citizens, for which the citizens have to visit the nearest Kendra.

Next section explains research methodology used for the study.

RESEARCH METHODOLOGY:

The researcher has used survey based method to collect data. The multistage sampling technique was used for data collection. The data was collected from three districts viz. Pune, Satara and Sangli and nine sub districts. A questionnaire was prepared for data collection from citizens. Tables given below, explain the same in more detail and the confidence level is 95% and margin of error is 5% for both the questionnaires.

Table No.1: Research Design

| Districts | Pune | Satara | Sangli |
|--------------------------------|--|---|--|
| Population | 90,720 | 56,520 | 50,400 |
| Sub districts with sample Size | Haveli (138) Baramati(100) Daund (100) | Satara(116) Karad (110) Patan (109) | Miraj (101) Vita (103) Tasgaon (100) |
| Sample Size | 338 | 335 | 304 |
| Total Sample size | | 977 | |
| Method of sampling | Multistage Random Sampling Technique | | |

Next section describe data analysis and hypotheses testing.

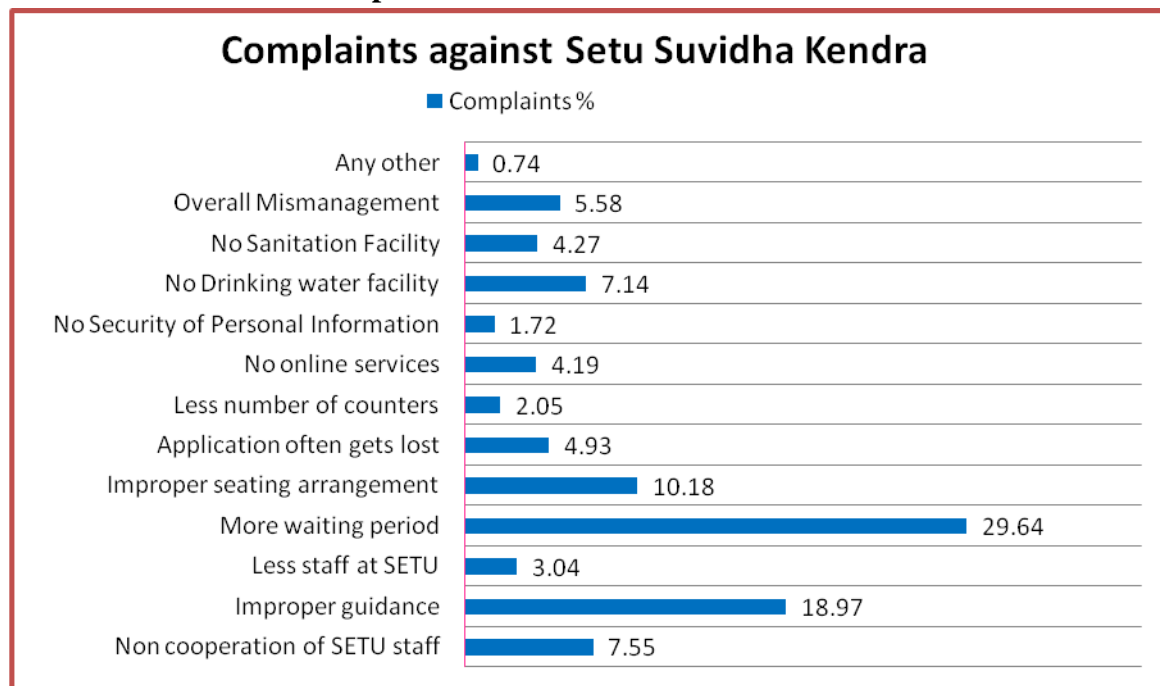
DATA ANALYSIS AND HYPOTHESIS TESTING:

Researcher has collected the data regarding complaints to identify gaps in the service delivery. Following observations were recorded in this regards.

Table No.2: Nature of Complaints

| Complaint | Pune | % | Satara | % | Sangli | % |
|-------------------------------------|------|-------|--------|-------|--------|-------|
| Non cooperation of SETU staff | 47 | 8.70 | 8 | 2.37 | 37 | 10.85 |
| Improper guidance | 111 | 20.56 | 55 | 16.32 | 65 | 19.06 |
| Less staff at SETU | 18 | 3.33 | 4 | 1.19 | 15 | 4.40 |
| More waiting period | 147 | 27.22 | 114 | 33.83 | 100 | 29.33 |
| Improper seating arrangement | 15 | 2.78 | 69 | 20.47 | 40 | 11.73 |
| Application often gets lost | 39 | 7.22 | 9 | 2.67 | 12 | 3.52 |
| Less number of counters | 7 | 1.30 | 5 | 1.48 | 13 | 3.81 |
| No online services | 32 | 5.93 | 8 | 2.37 | 11 | 3.23 |
| No Security of Personal Information | 10 | 1.85 | 5 | 1.48 | 6 | 1.76 |
| No Drinking water facility | 34 | 6.30 | 31 | 9.20 | 22 | 6.45 |
| No Sanitation Facility | 26 | 4.81 | 17 | 5.04 | 9 | 2.64 |
| Overall Mismanagement | 52 | 9.63 | 5 | 1.48 | 11 | 3.23 |
| Any other | 2 | 0.37 | 7 | 2.08 | 0 | 0.00 |
| Total | 540 | 100 | 337 | 100 | 341 | 100 |

Chart No.1: Nature of Complaints

**Interpretation:**

- It has been observed that all respondents have a common complaint about the delays in service delivery and the long waiting periods at SETU Suvidha Kendra.
- Citizens have also complained about the improper seating arrangement at the centers. People come from various places with service requests. They must be given a proper place to sit, clean drinking water, sanitation facility etc. Respondents spend most of their time standing in a queue as there is no place to sit.
- Respondents also complained about the uncooperative attitude of SETU employees. Citizens have objected to the misinformation provided by SETU operators with respect to enclosures to be attached, which queue to stand, fees to be paid etc.
- Some other issues were the unavailability of staff, few counters made available at center, absence of online service etc.
- The complaints made by the citizens directly show that there is overall mismanagement at SETU Suvidha Kendras, which directly results in citizens unhappiness over the performance of SETU.

HYPOTHESES TESTING:

Hypothesis 1 is “e-governance services are provided in a non integrated manner”

Null Hypothesis: 85% or fewer citizens have stated that the services are provided in a non integrated manner. ($H_0 = p \leq .85\%$)

Alternate Hypothesis: > 85% of the citizens have stated that the services are provided in a non-integrated manner. ($H_1 = p > .85\%$)

The objective behind starting SETU was to provide services to citizens in an integrated manner. The study has revealed that only 12 % of the citizens claim that services are

offered in an integrated manner whereas, the remaining 88 % respondents haven't had a similar experience.

Z test is used to test the hypothesis. For a sample of the 977 respondents, 88% said that they are offered services in a non integrated manner.

Thus

$$(\hat{p}) = \frac{88}{100} = .88, P_0 = .85, n = 977$$

$$z = \frac{\hat{p} - p_0}{\sqrt{\frac{p_0(1-p_0)}{n}}}$$

$$Z = 2.63$$

Interpretation:

Z statistics value is 2.63. The population proportion is .85 and a sample of n=977 translate z to score of 2.63. According to Z score table $P(Z < 2.63) = .9957$. Therefore $P(Z \geq 2.63) = 1 - 0.9957 = 0.0043$. This is a right tailed test, P value = 0.0043.

P value ≤ 0.05 , therefore the null hypothesis (H_0) is rejected and H_1 is accepted.

Inference:

Thus, it can be concluded that “e-governance services are provided in a non integrated manner.”

Hypothesis 2 of the study is “**Disgruntlement among citizens is high due to absence of application tracking mechanism.**”

Null Hypothesis: Absence of application tracking mechanism makes no difference in disgruntlement amongst citizens.

Alternate Hypothesis: The absence of application tracking mechanisms lead to disgruntlement amongst citizens.

This hypothesis has been tested by studying the satisfaction amongst citizens for communication in regards to the status of their application, for a service request. Primary data shows that around 80% of the respondents are not communicated the status of their application; whether it is accepted, pending or rejected. Citizens whose applications are accepted are sent for further processing, but citizens whose applications are pending or rejected, are informed about it only on their next appointment date. Primary data analysis shows that that 60% of the citizens are dissatisfied because of the non communication of the status of their applications.

To test the hypothesis **Kruskal –Wallis Test** is used. It is a non parametric test used to determine if there are statistically significant differences between two groups of ordinal data. This test will help identify the dissatisfaction among the citizens within two groups. The first group is a group of citizens who are communicated the status of application and group two is a group of citizens who are not communicated the status of their application. The following table shows descriptive statistics for Kruskal-Wallis Test.

Table No.3 Descriptive statistics for Kruskal –Wallis Test

| Variable | N | Mean | Std. Deviation | Minimum | Maximum |
|-------------------|-----|------|----------------|---------|---------|
| Comm_Satisfaction | 977 | 1.93 | 1.102 | 1 | 3 |
| Comm_Status | 977 | 1.79 | .404 | 1 | 2 |

Table No. 4: Ranks for Kruskal-Wallis Test¹

| Ranks | | | |
|-------------------|-------------|-----|-----------|
| | Comm_Status | N | Mean Rank |
| Comm_Satisfaction | Yes | 201 | 431.98 |
| | No | 776 | 503.77 |
| | Total | 977 | |

Table No. 5: Test Statistics^{a, b}

| | |
|-----------------------------------|-------------------|
| | Comm_Satisfaction |
| Chi-Square | 11.549 |
| Df | 1 |
| Asymp. Sig. | .001 |
| a. Kruskal Wallis Test | |
| b. Grouping Variable: Comm_Status | |

Table No.5 shows p value =0.001 which is less than 0.05. Hence the null hypothesis has been rejected.

Inference:

It can be concluded that the Absence of an application tracking mechanism leads to disgruntlement amongst the citizens.

FINDINGS :

- Service delivery :- Study revealed that the services are not offered in integrated manner to the citizens. Study also reported that citizens are moderately satisfied with the services, its delivery mechanism. The overall satisfaction is 57 % .
- Gaps in the service delivery:
Gaps identified in the service delivery were longer waiting periods, presence of agents, charging of higher fees than the government prescribed fees, non-cooperation of SETU employees, improper guidance of staff, and no waiting place for the citizens in the center and many more. Apart from this IT audit& inspection and business continuity plan were found to be totally neglected grey areas.
- Adhering to service deadline: From the data collected, it was clear that the services that were in more demand viz., Income, caste, Non creamy layer, Nationality and Rahivasi Dakhala certificates were found to be not delivered on time.
- Communication between government and citizens: On an average 80 % of the

citizens have agreed that status of their application is not communicated to them.

- Number of visits and days required to get the service: - Primary data shows that 49 % of the citizens got the service within two visits followed by 33 % who got the same in three to five visits.[Warale & Diwakar,2016]

SUGGESTIONS:

To improve the performance of SETU, reduction of delays and to bring in transparency into the system, the following suggestions are proposed

- Services can be categorized into 'H','M','L' categories based on demand and urgency. H type of services are services which are high in demand, M category of services have a moderate demand, whereas L means services in low demand. Such classifications will help the SETU center offer services in a prioritized way like, having more dedicated counters for H type or more time slots for processing and so on.
- A tracking system is mandatory either on mobile phones by way of sending SMS or displaying on a board in SETU centers or publish on the web page of SETU will avoid rush and confusion of citizens regarding their application status.
- Systems audit must be conducted regularly. Conducting regular system audits will ensure the faultless working of all hardware, software, security of the system .
- Middle men/agents should be removed from the system to provide more corruption free services.

Above mentioned process level changes will help in improving the working of SETU system with incurring very minimal additional cost.

- Latest updates reveal that Government is making rapid progress in rolling out services through Maha e-Seva Kendra.
- Recently, the monitoring and control of Maha e-Seva Kendra was transferred to Mahaonline. These centers are becoming highly prominent delivery points for various government services.

At this juncture, it has become crucial for the researcher to analyze the role of SETU and the course it hopes to follow in the long run. Few important considerations are as given below:-

- Centers like SETU cannot be abolished all of a sudden, since a significant percentage of the rural population still visit SETU centers to avail services. However introducing online services in SETU would require rewriting the software which makes no sense as www.aapalesarkar.mahaonline.gov.in, is already operational, though with limited services as of now.
- Till date not all the services are being offered by The Maha e-seva Kendras, hence SETU has to continue to exist.
- Once the Maha e-Seva Kendra becomes more robust and operational, SETU Suvidha Kendra need to be phased out slowly.

The ultimate aim of any government is to offer services to citizens at Any given time, Anywhere through a single window in an Integrated way (abbreviated as AAI). At present, the government of India has multiple initiatives at every stage which are

functioning independently, alongside the various e-governance initiatives of the central government. To accomplish AAI, it is mandatory to bring in or merge or integrate the currently existing systems (heterogeneous systems) under one single umbrella. To achieve this it is important to have a model that will smoothly and systematically assist in the integration process multiple heterogeneous e-governance systems.

Keeping this in mind an e-governance maturity model, which is 5 stage integrated citizen centric e-governance system suitable for Indian scenario, is presented. The said model is unique from the existing models, as it is being developed with the idea of an integrated e-governance system, that will have a repository of the entire country's citizens' information for the government to store, analyze, predict, plan and implement welfare systems for the citizens. Ultimately, a matured e-Governance initiative will result in the achievement of good governance. [Hala Al-Khatib,2009]

Next section discusses the e-governance maturity model in greater detail.

E-GOVERNANCE MATURITY MODEL:

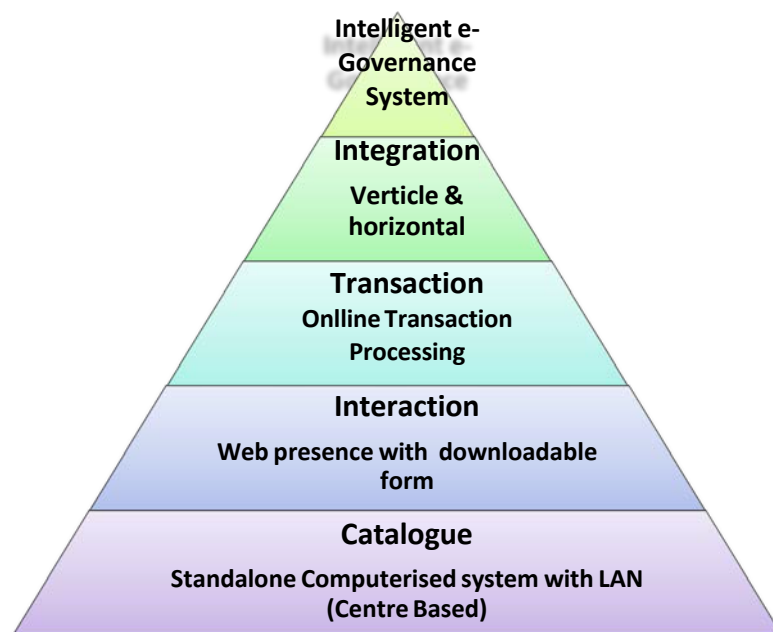
The proposed model consists of five stages catalogue, interaction, transaction, integration and Intelligent e-Governance system. This Model will clearly depict how an e-governance project should be implemented from its birth i.e. introduction stage/level, bringing complete transformation where any e-government service can be made available to citizen as AAI in most convenient manner. The unique feature of this model is that it is linked to the UID of citizen and digital locker.

Stage 1: Catalogue: In the first stage, government establishes the computerized setup with LAN to offer basic services to citizens visiting centre. This approach is called as centre-based approach. [Hala Al-Khatib,2009]

Stage 2: Interaction: This is achieved by hosting of e-Governance project website and introducing kiosk based tracking mechanism. Users will be provided with various utilities such as download application form, search facility etc. This stage acts as a first point of online interaction of citizens with the government. [Hala Al-Khatib,2009]

Stage 3: Transaction: This stage will change the way citizens interact with government. This means that the citizen can make complete transactions over the web. Users may track the progress of their application online. Next stage will be development of integrated system.

Diagram 1: E-Governance Maturity Model



Stage 4: Integration: This stage is featured with vertical integration and horizontal integration. Vertical integration is integration of services at taluka level, district level and state level for each department.

Stage 5: Intelligent e-Governance system: This stage is the final stage of the model and represents the smart use of the e-governance system at the national level. Introduction of “Intelligent e-Gov System” is the unique contribution made by the researcher to the body of knowledge. The maturity models proposed in theory so far has been limited to only the discussion of the integration stage and transformation stage meant for integrating services.

This fifth stage will help in finding

- which service is becoming obsolete, which is in more demand.
- Preparation of the development plan for rural and urban areas,
- Sector wise planning
- Formulation of new plans and policies
- Intelligent e-Governance system will help identify the number of people in India that are retiring this year and identify employment opportunities that are generated.[Warale &Diwakar,2016]

It will ultimately help in making projections on various fronts such as agriculture growth, income growth of citizens, technology growth, population growth, future and extent of the use of mobile governance, migration, fertility, mortality etc.

CONCLUSION:

SETU one of the oldest e-Governance initiatives of the government of Maharashtra has been studied in depth using a descriptive study approach. The findings clearly indicated that though the system performs better than the earlier manual systems, citizens are only marginally satisfied with the service delivery mechanism and thus system has not scaled up to the expectations of citizens. It is yet to achieve the

aims and objectives with which it has been set. The study also revealed the gaps in the systems. The findings and hence the suggestions are also presented. It is recommended that with the process level changes in the application work flow, gaps in the service delivery can be removed to reap the full benefits. As these systems have to mature into a full-fledged integrated on line transaction systems in the future to assist the government to run the country in an efficient and intelligent way, an e-governance maturity model with five stages/levels is introduced. The functionalities defined in these stages ultimately help in transforming “the e-governance system into an intelligent e-governance system”. [Warale & Diwakar,2016]

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USE OF INFORMATION TECHNOLOGY IN INDIAN COURT ADMINISTRATION

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Abstract

Judiciary plays vital role in justice delivery system in any country. In India, due to huge population, high number of cases are pending in the Indian Courts right from lower judiciary to the apex court. In this background, to overcome the challenge of adjudicating the cases effectively and without delay, it is imperative for the court administration to use the tool of information technology effectively for resolving disputes and minimizing the pendency. This paper depicts the efforts of Indian government to tackle the issue of pendency through IT enabled solutions and discusses its utility in enhancing the efficacy of the court administration.

Key Words: *Judiciary, Court Administration, Computerization, Cause lists, CONFONET, Consumerism*

In 1990, the National Informatics Centre of the Ministry of Information Technology started the process of computerization in the Supreme Court as a result many applications have been computerized which made positive impact on the litigants. The similar computerization is in place at 18 High Courts and thereby helped the court administration positively. .

I. Supreme Court of India

List of Business Information System (LOBIS): This system is about scheduling of cases to be heard by the courts on the following day. This process has enabled the court administration to eliminate the manual process of Cause List generation. These databases contain details of fresh cases, disposed and pending cases. This has proved to be a backbone application of every Court in these days. Due to this system Cause Lists are generated automatically by the computer without any manual interference resulting in generation of Cause List in time without any delay. Cases are listed strictly in chronological order of date of filing; eliminated irregularities

All the cases having the same law point(s) to be decided by the courts can be grouped and posted before one bench. This has helped the courts in faster disposal of cases. It has become easier to recall dismissed cases when review petitions are filed. The system has been effective in generating instantaneous statistical reports. It has helped Registry of Supreme Court in streamlining its day to day activities to achieve one of the main objectives of COURTIS Project

Computerization at Filing Counter: In the Supreme Court of India and all High Courts fresh cases are filed only before the computerized Filing Counters. As the advocates stand in queue for Filing cases before the counters, the data entry Operator enters preliminary details required for Registration such as Party names, advocate

details, etc. The computer terminal at the query counter is used to attend to the queries of the litigants on the spot. The defects, if any, are listed out and handed over to the litigants/advocates for rectification. Time limitation is also checked by the system automatically. The impact of this computerization is that the filing process is now hassle free. The advocates/litigants can save their time and they need not wait for a long time in the queue. The amount collected towards Court fee in a day is automatically calculated thus saving the time of court official's time. Query counter avoids the litigants go around the sections to find out the Filing status

COURTNIC:

This is about providing Supreme Courts' pending case status information to litigants/advocates on any node of NICNET. COURTNIC answers about two hundred queries of litigants/advocates per day all over the country on the status of their pending cases. It is available on nominal charges. Primarily COURTNIC information is available in all NIC-High Court Computer Cells and in some District Court. This system is in use since 1993. The response to the COURTNIC from the public is very positive because the litigants need not visit the court to come all over to Delhi from their place to get the information of their case. T

JUDIS:

NIC has brought out Judgment Information System (JUDIS) consisting of complete text of all reported judgment of Supreme Court of India from 1950 to till Date. (<http://judis.nic.in>)

Supreme Court's pending Cases on IVR: Interested litigants and advocates can find out the status of their cases pending in Supreme Court on telephone by making use of Interactive Voice. Response System (IVR) free of charge.

Cause Lists on Internet (<http://clists.nic.in>): The Cause lists of Supreme Court and many other High Courts are available on NIC Web Servers. As the Supreme Court of India and all the 18 High Courts and their 10 Benches are fully computerized, all these courts generate Daily and Weekly Cause lists from the computer servers installed by NIC. The Cause list application is the backbone application of all courts as no court can function without that day's Cause list. Hence this has been proved to be very useful for the litigants. By making the Cause lists available on Internet, no High Court is incurring any expenditure as they are using the already available infrastructure and the Software of NIC. This has saved lot of public money. The major feature of this list is that it can be accessed at URL i.e. (<http://10.249.17.134>) through internet.

- Advocates can also generate their own Cause list consisting of his/her own cases. This is possible through the name of either petitioner or respondent
- Court wise list, Judge wise list can be prepared
- Entire Cause list can be printed, if required. Even Case no. wise access is possible
- This has helped the lawyers to receive the Cause lists almost immediately after courts hours.
- Advocate can generate their own casuists which will contain only their cases, thus avoiding them to go through hundreds of pages to locate their cases
- As the application is available on Internet, the litigant public can easily find out whether their cases are coming for hearing or not, without bothering the advocates.

- The courts have saved good amount of money on annual basis on printing and circulating such cause list.

NIC has made the Cause lists of almost all High Courts on its Web servers apart from the Supreme Court of India:

Ever since NIC has made the Cause lists of the Supreme Court of India and High Courts available on Internet, this application has received huge response from the advocates and litigant public. To understand the enormous response the application has received. On an average it is receiving 10,000 hits per day. By any standard, it is a significant number for one application.

II. High Courts:

NIC took up computerization of all 18 High Courts and 9 Benches on the lines of Apex Court's Computerization. NIC implemented the List of Business Information (LOBIS) in all High Court Courts. Some of the High Courts' Cause List are also available on Internet. Many possible applications in all High Courts have been computerized. Most of the High Courts have opened query counters along with Filing Counters for providing pending cases information to the litigants and advocates. All HCs are connected on NICNET/Internet. Day to day Judgments and Orders are now stored on computers

III. District Courts

In 1997, NIC took up the computerization of all 430 District Courts in the country on the lines of High Courts Computerization Project. The basic objectives of the project are:

1. to provide transparency of information to the litigants and advocates
2. to help the judicial administration in streamlining its activities
3. to provide judicial and legal databases to the District Judges

Training to the Staff: NIC provided three level training programs to the District Court officials. The three levels are:

- **Computer Awareness Programs** for the District Judges.
- **Supervisory level training** at NIC State Centres. These supervisory level officials were identified and sent to NIC State Centres by the District Courts for training on day to day maintenance of the computers and its peripherals.
- **In-house hands on training** to the District Court officials working on the computer terminals. The District Informatics Officers of NIC posted at the District Magistrates' Office imparted this training.

All officials have been trained on 'District Court Information System' (DCIS) SW. The DCIS Software is a huge general purpose Software package developed for the computerization of District Courts. This software takes care of all aspects of District Court needs. The project is yet to pick up momentum in most of the District Courts for want of interest from the District Court officials. NIC has proposed to conduct another round of Training to the users

Use of IT in Consumer Disputes Redressal Machinery in India:

'CONFONET' Scheme: A project for Computerization and Computer Networking of Consumer Fora in the Country (CONFONET) was launched during the 10th Plan

period in March 2005 at a cost of Rs.48.64 crore. The project is being implemented by the National Informatics Centre (NIC) on a turnkey basis.

The CONFONET project has been extended to 11th Plan with a total outlay of Rs.25.00 crore. In the extended period of project, stress is being laid upon continued HR support by means of Technical Support Personnel (TSP) and training for eventual adoption of the system by the Consumer for themselves. Hundred percent expenditure of Rs.6.60 crores has been incurred during 2012-13 under the CONFONET project. As on December 2012, out of 640 locations being covered, the CONFONET is operational in 340 Consumer Fora. 288 Consumer Fora are uploading cause lists while 191 Consumer Fora are uploading judgments.

Strengthening the infrastructure of Consumer Fora:-The Central Government has been extending financial assistance to States/UTs for strengthening the infrastructure of consumer fora so that minimum levels of facilities are made available at each consumer forum, which are required for their effective functioning.

Infrastructural Facilities being provided under the scheme include construction of new building of the Consumer Fora, carrying out addition/ alteration/renovation of existing buildings and grant for acquiring non-building assets such as furniture, office equipment etc. During 2012-13, under the Scheme for “Strengthening of Consumer Fora (SCF)” an amount Rs.384.28 lakhs has been released so far to 4 States, namely, Mizoram (Rs.15.75 lac) Punjab (Rs.4.33 lac), Tamil Nadu (Rs.197.41 lac) & West Bengal (Rs.166.79 lac).

Conclusion:

The Government of India has taken initiative to computerize the court administration in India almost two decades back. The system has been proved to be very effective cost and time wise. The Common man can also have access for this information and thereby posed the confidence in them about the Indian court administration. However people from rural area still have problem due poor internet connectivity, their ignorance to handle the electronic gadgets to seek the information of their cases. More accessibility to internet and computers or mobiles and their awareness would be of great help to the masses.

The consumerism has been established all over the world and in the last century it has got moment of in India also. The govt. of India has taken proactive steps through CONFONET to strengthen the consumerism by various ways. The Consumer Forums all over the country have played vital role in consumer protection. The IT enabled services have created hope of getting speedy justice from the Indian courts and other quasi-judicial bodies.

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IT & OPERATIONS MANAGEMENT

ANALYTICAL STUDY OF SOFTWARE TOOLS/BUSINESS INTELLIGENCE TOOLS USED IN BUSINESS ORGANISATIONS AND ITS OVERALL IMPACT ON BUSINESS EFFICIENCY IN SMALL & MEDIUM SCALE ORGANISATIONS

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Abstract :

It has been a considerable Time since Software's have been Used in Business Management which have resulted in enormous gains for Business. The large business houses have no problems in updating their computer & software infrastructure but for small and medium enterprises it is difficult. This study tries to throw an insight into various issues relating to software uses in industry & its overall impact on business efficiency .

Keywords: *Buisness:Software,Recurring Cost, Infrastructure Cost, Licenses, Efficiency, Smarter, faster, Responsive.Software Implimentation,Desicion Making.*

Introduction:

The growth of Buisness and Industry has been phenomenol as a result of various government Policy changes and Initiatives in Liberalisation ,Privatisation & Globalisation . At individual Business level we can see that Size of Businesses Grew Manifold because new markets and opportunities were discovered and tapped by them but with growth of business cannot be sustained in long run unless there is a fine tuning among the various departments of business or else the momentum gained by business will stop and gradually decline will set in. When the Business is small the number of employees is small things go about easily but as numbers increase complexity of procedures and large number of clients to serve it is impossible to work without software's& Automation and as business grows these become indispensible. Many softwares have come in market which have aided in this step to name a few Tally a software which is used for accounting solutions of Buisness. Software which Store and Retrieve Data like Mozy, Softwares which help in Managing customer relationship Management which is very vital in business Like ZOHO. Planet Together is another software in field of production planning and control, Inventory management. There is not a single area where softwares have no application .

The Three Fundamental Roles of Information Systems in Business :

Information Storage and Analysis

Many companies no longer manage their data and information manually with registers and hard-copy formats. Using of information systems, companies can make use of inhouse databases that contain all Types of data about the company. Information systems store, update and even analyze the information and Data .Using Various

Information systems we can integrate data from various sources, inside and outside the company, keeping the company up to date with internal performance as well as external opportunities .

The success of a company depends upon the its strategic plans. An organization's management uses information systems to formulate strategic plans and decisions for the Growth and development of any company . The business management uses information systems to evaluate information from various sources. There are certain softwares which help in Decision Making process by Analysing Data these are called as Buisness Intelligence Softwares.

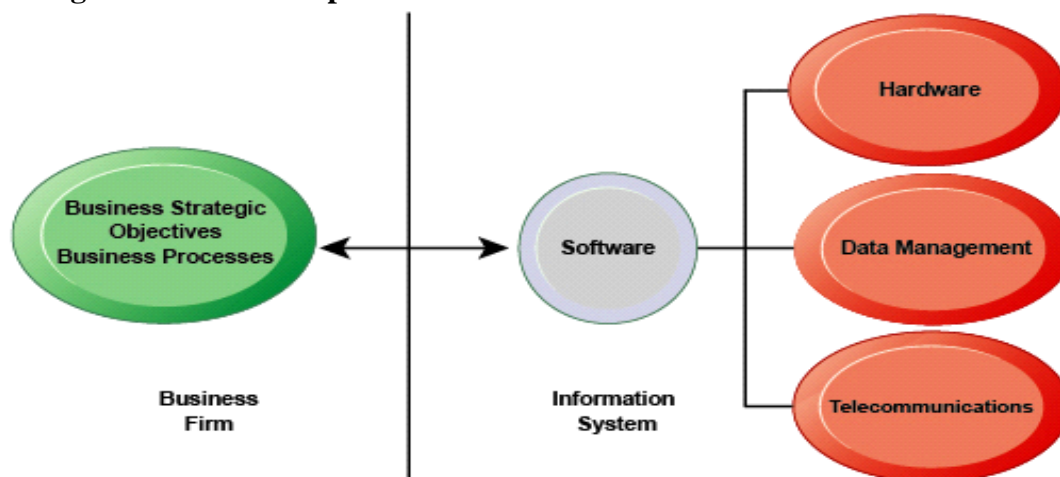
These tools have made Business doing. easy but there are many new challenges which are facing this area.

- Developing customized softwares with affordable cost / Budget cost
- Replacement cost of software Verses new softwares
- Study How Softwares help in improving business efficiency & profitability
- How softwares can deliver better services to customers.
- The reliability of softwares is also a big issue
- The challenge to train non IT personnel in handling softwares
- To help business remain competitive in Dynamic Environment

Objectives of study

- To study the various business Intelligence softwares available in market
- To study utility of these softwares in business management
- To study Cost benefit & profit , Quality analysis of Buisness soft
- To study the shelf life of business Software

Figure 1. Relationship of Business and Database



What is Business Intelligence : Business intelligence software or BI software is a suite of tools designed to source, sort, consolidate, analyze and present complex data into digestible reports for insights.

Business intelligence systems combine operational data with analytical tools to present complex and competitive information to planners and decision makers. The objective is to improve the timeliness and quality of inputs to the decision process

Business Intelligence is a natural out growth of previous Systems designed to help decision making process. The objective of business Intelligence is to improve timeliness and quality of inputs to decision makers in business.

Companies use Business Intelligence for the following strategic goals:

- **Identify SWOT** (strengths, weaknesses, opportunities and threats): This Analysis helps in identifying the strengths, weaknesses, opportunities and threats to a business in a dynamic and competitive environment chalk out its future business strategies .
- **Measure KPIs:** Software are very helpful in measurement of Key Performance Indicators of Business Eg. Sales, Turn Over, Capacity Utilization ,New Customer Addition.
- With growth of business scale the quantum of data generated increases manifold and it becomes very difficult to process it in short span of time
- **Processing Real Time Data:** for better & speedy decision making voluminous quantity of data has to be processed in short span of time which is not possible without softwares
- **Customer Feedback And analysis:** with large number of customers in business , it becomes more important for companies to keep track of their satisfaction level solve their grievances various software's provide this service
- **Employee services:** today's organizations perform well because of their efficient employees and it becomes more important to keep these employees satisfied and hence softwares which provide employee benefits from organization in small time come handy for example disbursing bonus, incentives in time , providing in advance training schedule Etc.
- **Inventory management:** manufacturing firms have to be very careful about the stock levels of raw material too little and they will not be able to complete orders & increase cost, too much in stock leads to locking up capital and also reducing the quality of material . software's have been developed which maintain the inventory levels of raw material and hence if a raw material goes below minimum level immediate alert is send.

Some of the widely used software's in Business :

- **SAP** - SAP was founded by 5 former IBM Employees in the year 1972 in Germany. Whose aim was to develop a standard application software for real time data processing . The company head Quarter are located in Weinheim, Germany from its initial humble setup of just 9 people and 620,000 German Deutsche Mark in the year 1972 . Today the revenue is at 5.8 Billion Euros .SAP Serves 365000 Customer in 180 Country World Wide. 87% of global Forbes list company are its customers .
- **Online analytical processing (OLAP) or Business Analytics** - OLAP tools that enable you to analyze multidimensional data in real-time or simultaneously with other analytics processing This Software is very commonly used for 3 basic analytical operations are consolidate or roll up disparate sources; drill down to details; and slice and dice. The best OLAP software has been developed by IBM it is also called as IBM Cognos Software .This is a Licensed software,another

software by the name of “MicroStrategy “ developed by Washington based is very widely used .

- **Zoho Reports** -This is an online reporting and business intelligence service which helps company to get insight from its business data .Zoho software was develop by AdventNet INC in the year 1996. All most 30 Million Licensed User of this software in the year 2017. The company spread in US ,UK,France ,China,Germany Etc. There are some features of Zoho Reports S/w: Connect to any data source,Secure online collaboration, Data blending,Powerful formula engine,Embedded analytics
- **Tally** - This is most widely used accounting software in indian compines. It is developed by an indian enterprener Mr.Shyam Shunder Goenka along with his son to provide solution for account books keeping. It is a windows base version it was developed in the year 1988 and in 2017 the company launched its tally ERP 9 series which provide solution to Indias new tax structure GST as on 2016 the number of customers using tally globally was 1 Million .

Impact of Software on Business performance :

1. Reduction in decision making time : Time is the crux of all business if it is lost or wasted then you are giving an opportunity to your rivals to score a point softwares provide this advantage of fast data Processing.
2. Reduction in the errors (in comparison to manual work) : No one can deny that the days of manual work is very limited in todays scenario manual work comes with its share of shortcomings which are number of errors and it cannot be ignored and may prove costly is business softwares can reduce this possibility drastically.
3. Optimization of human resources of the oraganization : The manpower of an organization plays a very crucial role in the performance of company . Optimization of human resources is possible when softwares come to their aid which helps in more productivity & multiskilling of employees.
4. Reduction in the operating cost of Industry or Company: Due to softwares the scale of operations increases and which in turn increases profitability also few manpower is required, reduced wastage in raw material, time are also benefits to industry.
5. The use of software reduces amount of supervision on employee and make them more independent in their work.
6. Due to use of software company can reach a large number of customer short period of time.
7. The Concepts of virtual Office can become a reality ,also flexible work schedule can be implemented .

The Role of Information Systems in Business Today:

Business firms invest heavily in information systems to achieve six strategic business objectives:

- **Operational excellence:** Efficiency, productivity, and improved changes in business practices and management behavior
- **New products, services, and business models:** A [business model](#) describes how a company produces, delivers, and sells a product or service to create wealth.

Information systems and technologies create opportunities for products, services, and new ways to engage in business.

- **Customer and supplier intimacy:** Improved communication with and service to customers raises revenues, and improved communication with suppliers lowers costs.
- **Improved decision making:** Without accurate and timely information, business managers must make decisions based on forecasts, best guesses, and luck, a process that results in over and under-production of goods, raising costs, and the loss of customers.
- **Competitive advantage:** Implementing effective and efficient information systems can allow a company to charge less for superior products, adding up to higher sales and profits than their competitors.

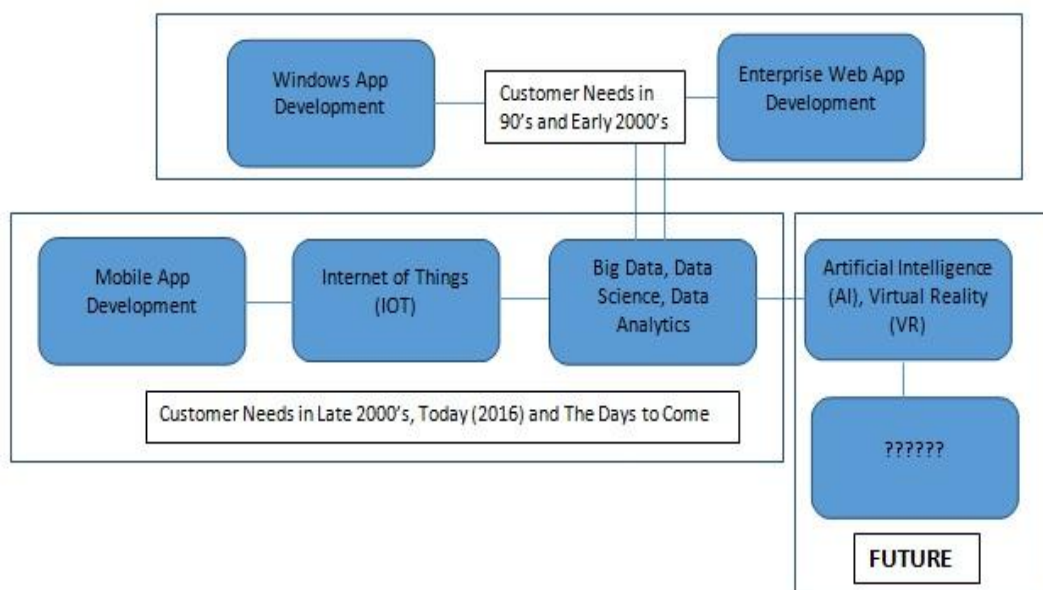


Figure 2. The Journey of Business Software

Future Trends of Softwares Used in Business:

Cloud Based Architecture: cloud based software means use of internet as big storage center hence its can be access from anywhere and any time. following are the features of cloud based software :

- **Flexibility :** Work can be done from any time and any place. Employees from different time zones can work simultanously on cloud server .
- **Disaster recovery & security :** If due to any reason the database is corrrpted or hacked then it can be retrieve from the cloud based server . A large amount of data can be securely stored on cloud because of its unique features.
- **Automatic software updates :** Cloud softwares are automately updated by their developer,so client is relieved from this routine work.
- **Capital-expenditure Free :** Due to Cloud computing companies need not invest huge amount in hardware and related accessories.

Conclusion:

Buisness softwares will continue to play a lead role in future buisness operations and growth models as organisations work in fiercely competititve envirnment manpower

has to be skilled and made techno savvy to use complicated softwares Also a cost benefit analysis is always recommended before a new software is introduced in organisation.

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A PUBLIC SECTORS' PERSPECTIVE OF FACTORS CONSTRAINING USE OF PUBLIC PRIVATE PARTNERSHIP FOR ROAD SECTOR DEVELOPMENT IN INDIA

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ABSTRACT

The importance of the development of road sector for the growth of the economy of a country cannot be undermined. In India, Transportation sector contributes close to 6.4% of the GDP of which 4.7% comes from Road sector alone, much above the 1% contribution from the Railways sector. 65- 70% of the goods traffic and 90% of the passenger traffic is handled by the road sector. India has the second highest road network in the world after USA. Even after such an impressive statistics the road development has not kept pace with the growth of the country. After the introduction of Public Private Partnership (PPP), there was an exponential growth of 69.43% in the length of the National Highways in the 9th five year plan. But there after the growth subsided – 14.59% in the 10th plan and 15.36% in the 11th plan. The number of projects awarded on PPP decreased sharply. This paper aims to investigate factors constraining the use of PPP in the development of road sector. The study is motivated with the country's inability to use PPP to the extent required in the development of road sector. A questionnaire with a list of 13 factors constraining the use of PPP, identified through literature review and discussion with experts, was administered among public sector clients. This paper analyses the views of only one stakeholder - Public sector clients. The questionnaire was tested for its reliability using Cronbach's Alpha. The data was analyzed using statistical tools. The top five factors identified were - Higher charge to the direct users, Much management time in contract transaction, High participation costs, Lack of experience and appropriate skills in handling issues during implementation / work-in-progress and high project costs.

Keywords: Public Private Partnership, PPP, Negative Factors, Road development, Infrastructure

Introduction

An efficient delivery of infrastructure services contributes to economic development of a country both by increasing the productivity of the industry and by providing amenities which enhance the quality of life. In that sense transportation plays an important role as any reduction in its cost raises the profitability of production by permitting higher

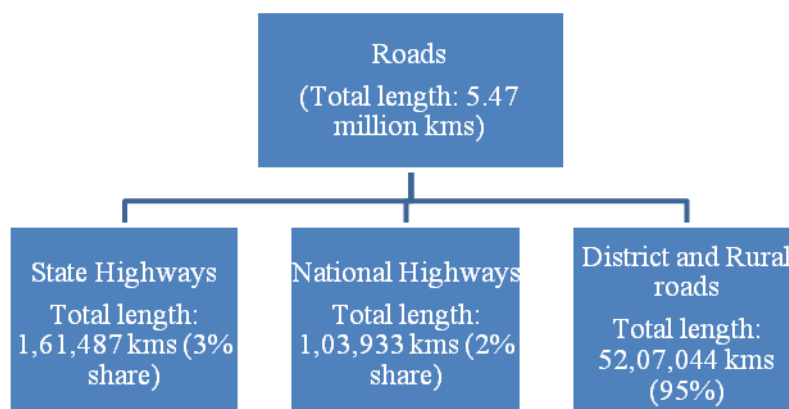
levels of output, income &/or employment. As per Transport Corporation of India report of Feb 2011, a 0.5% reduction in logistical costs will lead to a 2% increase in trade, and a substantial 40% increase in the range of products exported out of the country. Poor transportation facilities have ripple effects creating bottlenecks and slack capacity utilization in all sections of the economy. In India, Transportation sector accounts close to 6.4% of the GDP of which 4.7% comes from Road sector alone, much above the 1% contribution from the Railways sector. The government of India considers road network as critical to the country's development, social integration and security needs (Planning Commission, 2011). 65- 70% of the goods traffic and 90% of the passenger traffic is handled by the road sector (www.nhai.org/roadnetwork.htm). India has the second highest road network in the world after USA. Even after such an impressive statistics the road development has not kept pace with the growth of the country. Indian road network is not consistent with the development of the economy.

Indian Road Network

India inherited a poor road network at the time of its independence in 1947. Between 1947 and 1988 not much attention was paid to the roads sector. In earlier years much focus was laid on railways hence road network did not receive enough resources. Most of the roads were single lane and majority was unpaved. India did not have expressways moreover less than 200 kms were 4-lane highways.

There have been substantial imbalances' and inadequacies in the road infrastructure. National Highways that constitutes 2% of the road network handles 40% of the traffic. Despite the fact that

Figure 1: Indian Road Network



Source: Ministry of Road Transport and Highways (MoRTH) Annual Report 2016-17, Aranca Research

budget allocation to roads sector has been low as compared to railways, the total road length has increased from 0.4 million kms in 1950-51 to 5.21 million kms in 2017 amounting to a 13 fold increase in road length (Planning Commission, 1981; IBEF, 2017). While this is remarkable, the passenger buses and goods traffic has increased manifold. The roads are of limited value from the point of view of movement of heavy traffic. Only 20% of the surfaced roads are estimated to be in good condition, which

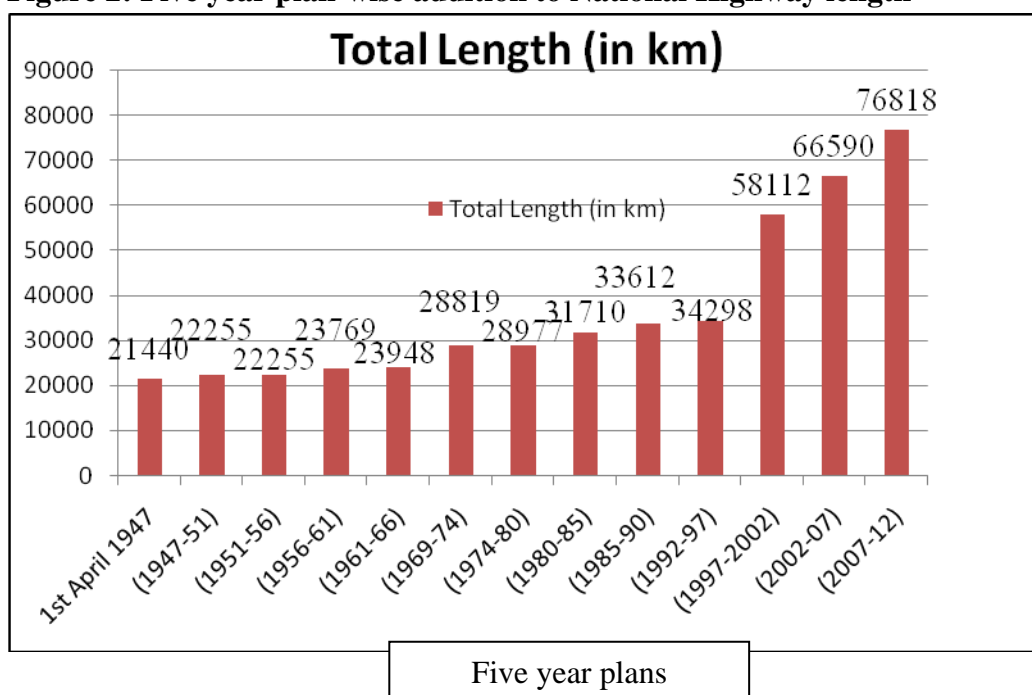
compares unfavorably with other countries viz Indonesia and Brazil 30%, Korea 70%, Japan and USA more than 85% (Planning Commission, 1997)

Public Private Partnership

World over the provisioning of infrastructure services has been the domain of the Government. Public sector traditionally uses lowest bid method (EPC) to award the contract. But, this encourages parties to use cost cutting measures at the cost of quality enhancing measures which makes it less likely that the contract shall be awarded to the party that delivers highest quality products. The state owned infrastructure utilities suffered problems such low labour productivity, poor service quality, thefts, revenue shortages, inadequate investments, deteriorating equipments. At the time of preparation of 10th five year plan, Rs. 1,65,000 crore were estimated for removal of deficiencies for National Highways alone. The huge infrastructure investment requirement, the fiscal constraints and the mounting liabilities faced by the government forced them to think of innovative ways of financing and developing infrastructure. ‘Public Private Partnership’ was one such model introduced by the Government to bridge the gap.

PPP is defined as “the transfer to the private sector of the investment projects that traditionally have been executed or financed by the public sector” (www.imf.org). The National Council for Public–Private Partnership, USA defines a PPP as a “contractual arrangement between a public sector agency and a for-profit private sector developer, whereby resources and risks are shared for the purpose of delivery of a public service or development of public infrastructure. A significant characteristic of PPP is the allocation and sharing of risk among parties (Ke et al., 2010a, 2010b). Unlike other procurement methods, the risks in PPP are identified and allocated to parties best able to manage and mitigate those (Li et al., 2005a).

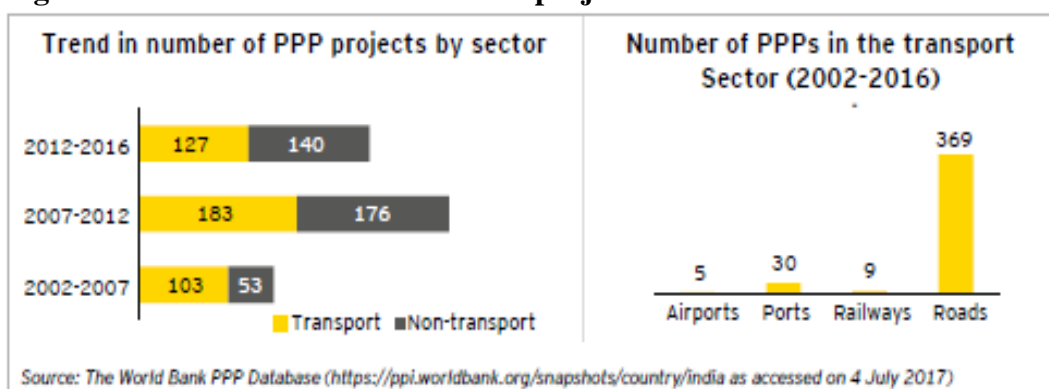
Figure 2: Five year plan-wise addition to National Highway length



In 1988 an autonomous entity National Highways Authority of India (NHAI) was established by an act of Parliament, National Highways Authority of India Act and came into existence in 1989. Although the Authority was created not much happened till early 1990s when India introduced widespread economic liberalization. Since 1995 major efforts were made by the Government of India to change India's road infrastructure. India formulated policies in favor of attracting private participation in the infrastructure sectors. After the introduction of Public Private Partnership (PPP), there was an exponential growth of 69.43% in the length of the National Highways in the 9th five year plan (1997 – 2002) (refer the figure below); but there after the growth subsided – 14.59% in the 10th plan (2002 - 07) and 15.36% (2007 -12) in the 11th plan. Government has been making continuous efforts to revive the sector.

India failed to maintain the initial tempo in PPP. GMR & GVK have walked out of mega-highway projects; in 2012-13 thirteen out of twenty-one and in 2013-14 twenty-one National Highways Authority of India (NHAI) projects failed to attract bidders. Out of 1,500 km of highways under build, operate, and transfer (BOT) in the first quarter of 2012-13, the private players submitted bids for only 100 km.

Figure 3: Trend in the number of PPP projects



This paper aims to investigate factors constraining the use of PPP in the development of road sector. The study is motivated with the country's inability to use PPP to the extent required in the development of road sector.

Research Methodology

The public sectors' views on the factors constraining the use of PPP for development of road sector were solicited by way of a questionnaire survey. Factors of constrain that were considered for evaluation were lengthy delays on account of political debate, higher fees to direct users, confusion over government objectives & evaluation criteria, lengthy delays in negotiation, very few schemes reaching contractual stage, high project cost, high risk to private sector, high participation cost, lack of experience and appropriate skills in handling issues during implementation / work-in-progress, excessive restriction on participation, much management time in contract transaction, less employment positions and reduce the project accountability (Li et. al, 2005) .

A questionnaire template designed by Li in 2003 was used for this study with prior permission obtained from the author Dr. Bing Li. Although a fresh questionnaire could

have been developed but there were two advantages to using Li's questionnaire. Firstly, the questionnaire was well accepted as was evidence from the publications using the result of the research findings derived from the questionnaire and secondly, there would be no added advantage to redo the work that has previously been done by some researchers.

4.1. Scope of Study

For this study the region that was considered was the State of Maharashtra and the type of roads that were considered was National Highways. Hence the population consisted of employees working / worked in public sector involved in the development of road projects in Maharashtra through PPP mode.

4.2. Sampling

The chosen sampling method for this study was purposive / judgmental sampling. The reason for this selection was that the pool of respondents is difficult to penetrate and referrals / contacts were the best means of reaching qualified respondents. Purposive sampling is where a researcher selects a sample based on their knowledge about the study and population.

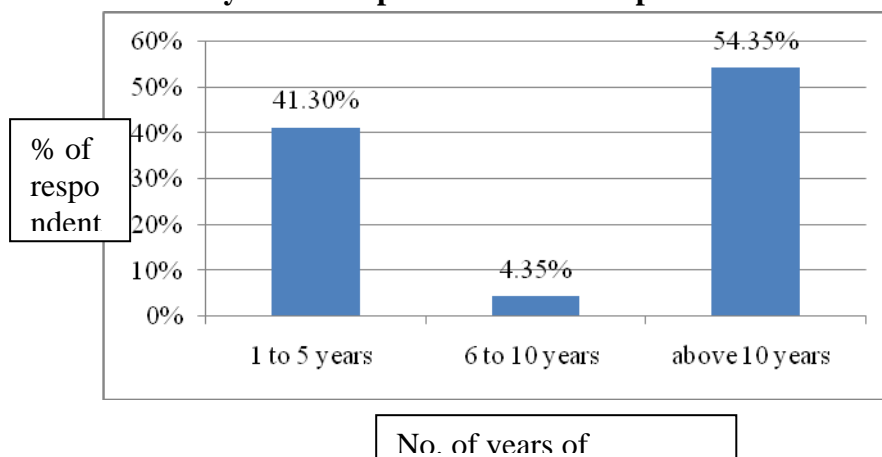
4.3. Collection of data

The questionnaire was sent to 165 respondents. Target respondents were selected based on their direct hands-on experience with PPP projects. The respondents were identified through personal contacts, business oriented social networking website www.linkedin.com, company's websites etc. The respondents were asked to rate their degree of agreement against each of the identified factors using a five-point Likert scale (1 – not important, 5 – extremely important, 0 – not applicable). The respondents were contacted through internet, email, personal calls, sms, personal visits etc. A regular follow-up was done to remind them to fill the questionnaires.

Analysis and Findings

The questionnaire was subjected to reliability test, Cronbach Alpha. The result of the test was 0.853 which is greater than 0.7 which states that the data collected for the factors is reliable (Norusis, 1992 and Nunnally, 1978). A total of 80 completed responses were received out of which 5 were incomplete. The 75 completed questionnaires were then analyzed using descriptive analysis.

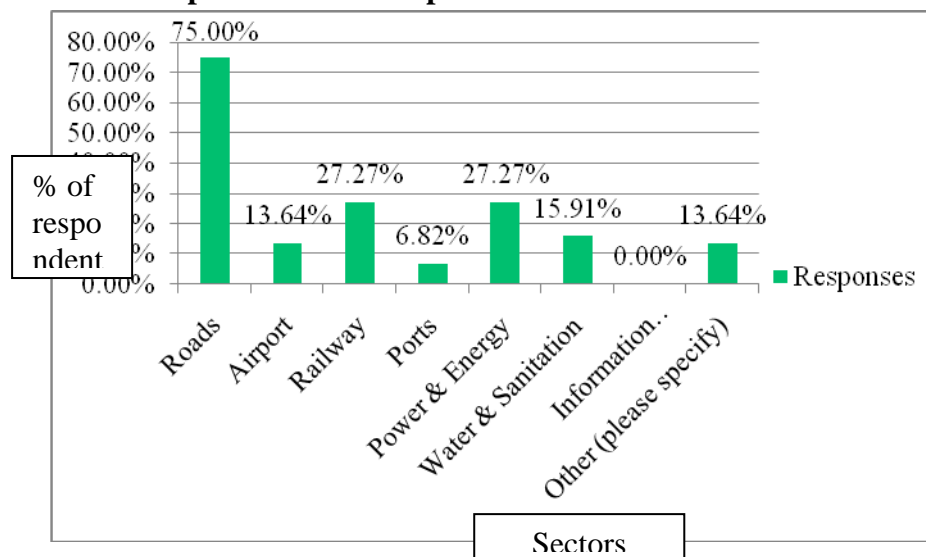
Figure 4: Number of years of Experience of the Respondents



The analysis of the profile of respondents depicts that around 59% of the respondents have work experience of more than six years with around 55% having more than 10 years experience. Hence we can conclude that the findings are tuned towards the voice of experienced professionals.

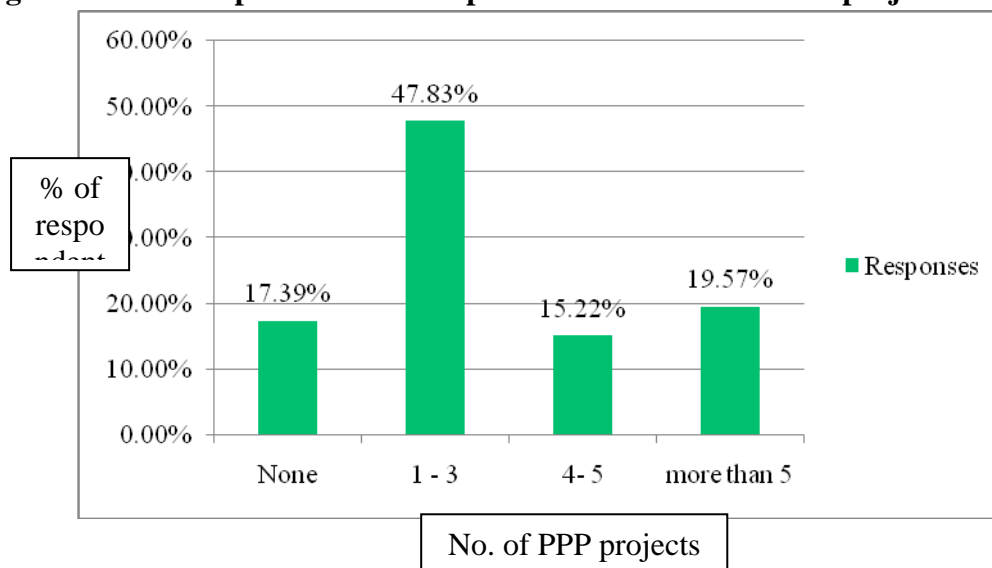
75% of the respondents have been involved in PPP projects in roads which depicts high relevance specific to the PPP and road sector.

Figure 5: % of Respondents with Experience in Different sectors



Around 84% of the respondents have been involved in atleast 1 PPP projects. From the figures 4, 5 and 6 we can conclude that the responses to the questionnaire have a rich relevant to the area of study.

Figure 6: % of Respondents with experience in number of PPP projects



The 13 factors of constraints were analyzed using mean and the result is as below,

Figure 7: Ranking of Factors of Constrain

| Factors of Constrain | Public Sector | |
|----------------------|---------------|------|
| | Score | Rank |
| | | |

| | | |
|---|------|----|
| Lengthy delays by political debate | 3.00 | 6 |
| Higher charge to the direct users | 4.67 | 1 |
| Confusion over government objectives and evaluation criteria | 2.00 | 8 |
| Lengthy delays in negotiation | 3.00 | 6 |
| Very few schemes have actually reached the contract | 2.67 | 7 |
| High project cost | 3.33 | 5 |
| High risk relying on private sector | 2.67 | 7 |
| High participation costs | 4.00 | 3 |
| Lack of experience and appropriate skills in handling issues during implementation / work-in-progress | 3.67 | 4 |
| Excessive restrictions on participation | 1.33 | 9 |
| Much management time in contract transaction | 4.33 | 2 |
| Less employment positions | 2.67 | 7 |
| Reduce the project accountability | 0.67 | 10 |

Conclusion

The average value range from 0.67 (reduce project accountability) to 4.67 (High charge to the direct users). The top four factors are High charge to the direct users; much management time in contract transaction; High participation costs

‘High charge to direct user’ is drawn from the fact that Indians have yet to mature to the culture of paying toll for using roads. The importance of toll money for the construction of roads and improvement of the service delivery is yet not completely accepted. Many a times people backed by political parties have opposed toll plazas.

‘Much management time in contract transaction’ reflects that PPP process is rather a bit complex because of the involvement for various stakeholders. An extensive amount of time is consumed by both the public sector and the private sector in bidding, pre-contract negotiation and project monitoring.

‘High participation costs’ refer to high tendering costs, pre-bid preparation cost, administration cost, consultation fees for both the public sector as well as the private sector.

‘Lack of experience and appropriate skills in handling issues during implementation / work-in-progress’ stems from the fact that Dispute resolution mechanisms are slow and not very well developed, often derailing project timelines and freezing funds. As of 2016 road projects worth Rs.25000 crore were held up due to disputes between NHAI and private developers.

‘High Project cost’ due to increasing labor cost and high land prices act as a major roadblock in the national highway expansion. The road transport and highways ministry has seen an *increase* of 30% in total *cost of highway* construction on account of high land *prices* and *increased* labor *costs*.

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A TOPSIS METHOD-BASED APPROACH TO VENDOR SELECTION

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ABSTRACT

A supply chain plays very vital role in the manufacture of a product from the procurement of raw materials to the distribution of the final products to the customer. The manufacturing function has gained importance in the supply chain management due to factors such as globalization, increased value addition in supply and accelerated technology change. The most important process of the manufacturing function is the efficient selection of vendor, because it brings significant savings for the organization. In general, most commonly used vendor selection criteria by the industries are quality, delivery and price etc. Decision makers always consider many criteria in vendor selection problem in manufacturing to select their best vendor. Hence, vendor selection problem belongs to the multiple criteria decision making (MCDM) problem. Weightages are calculated for different attribute by using Aggregation of individual judgements (AIJ) method. There are many approaches to solve the MCDM problem. In this paper the TOPSIS techniques for ranking of vendor is used so as to select best vendor.

KEYWORDS

TOPSIS, Multiple criteria decision making (MCDM), Aggregation of individual judgements (AIJ), DELPHI,

INTRODUCTION

Control panel is a heart of Robot which comprises 70% Bought out parts directly from the ultimate vendors and 30% in house assembly. If we look at this complete as a product the first question is coming in mind, Is the small amount of in house assembly is really helpful for the product considering the parameters Man, Method, Machines and Money? This in-house assembly though it is 30% but utilizes resources, labor, machinery, time, cost, electricity significantly. In addition to this, for 30% in house assembly we need to disturb 70% assembly already made by the vendor and for that we already paid the cost. The In-house assembly is carried out after inversion of the panel. In short, it's like reworking on complete control panel to do the assembly.

It's obvious that reopening of control panel will have human errors and ultimately results in to the quality issue which will be even worse at the customer place. Analysis is carried out for completely outsourcing of control panel so as to reduce all human

error as well as cost saving. Also aiming to select vendor based on low lead time for minimizing uncertainty. Katikar R S, Dr. Pawar M.S^[1] was used TOPSIS method in the selection of supplier for the application of purchasing, procurement or buying of components or getting a service to meet the demand of customers or run the business. The criteria used for vendor selection in manufacturing outsourcing are unit cost of component, quality of component, manufacturing capability, flexibility and delivery performance for variation in order sizes.

The main objective of vendor selection process is to identify vendors with the highest potential for meeting the needs consistently and at an acceptable overall performance. Selecting vendors from a large number of possible vendors is a difficult task. Vendor selection is a complex multi criteria decision problem that can include both qualitative and quantitative factors.

LITERATURE REVIEW

Srikrishna S and Sreenivasulu Reddy.⁽²⁾ proposed that decision-making method for selecting the best car. Important criteria's while selection include: fuel economy, comfort and convenience features, life span, suspension, style and cost. Dr. Bhatt Rajiv & Dr. Bhatt Darshana⁽³⁾ has researched on Supplier Selection for Construction Projects Through 'TOPSIS' and 'VIKOR' Multi-Criteria Decision Making Methods. In this paper AHP technique is integrated with TOPSIS and VIKOR methods for supplier selection in construction project for purchase of cement. Emrah Onder and Sundus Dag⁽⁴⁾ has completed his research on Combining Analytical Hierarchy Process And TOPSIS Approaches For Supplier Selection In A Cable Company. The aim of this paper is to determine the appropriate supplier providing the most customer satisfaction for the criteria identified in the supply chain.

Mst. Nazma Sultana, Md. Habibur Rahman and Abdullah Al Mamun⁽⁵⁾ proposed review article on Multi Criteria Decision Making Tools for Supplier Evaluation and Selection. Multi Criteria Decision making tools (MCDM) have been included in this paper to take the decision and to select the suppliers more accurately and makes a reflection on the effective suppliers selection criteria like supplier reliability, product quality and supplier experience etc. F. Ghaemi-Nasaba, S.Mamizadeh-Chatghayeh⁽⁶⁾ applied DEA-TOPSIS method for supplier selection. This paper based on a DEA-TOPSIS method for MADM problems a flexible strategy for supplier selection is introduced. Krishnendu Mukherjee⁽⁷⁾ completed his analysis for Supplier selection criteria and methods: past, present and future. Considering some issue an attempt has been made in this paper to give systematic review of supplier selection and evaluation process from 2005 to 2012. Gregory J. Skulmoski Zayed, Francis T. Hartman and Jennifer Krahn⁽⁸⁾ researched on The Delphi Method for Graduate Research. Very few researcher Choy, K.L., Lee, W.B. Eleonora Bottani, Antonio Rizzi, Liang-Hsuan Chen; Chia-Chang Hung⁽⁹⁾ make use the TOPSIS method in vendor selection in manufacturing outsourcing.

Weijun Xia and Zhiming Wu⁽¹⁰⁾ has researched on Supplier selection with multiple criteria in volume discount environments. In this article an integrated approach of analytical hierarchy process improved by rough sets theory and multi-objective mixed

integer programming is proposed to simultaneously determine the number of suppliers to employ and the order quantity allocated to these suppliers in the case of multiple sourcing. Nilesh R. Warea, S. P. Singh and D. K. Banwet⁽¹¹⁾ has completed their review on Supplier selection problem: A state-of-the-art.

METHODOLOGY

Supplier Selection Process –

The first step of supplier selection is “Problem Definition”- concerns decision makings which should identify the strategy of purchases e.g. the duration of new selection. Second step consisting of identifying the key criteria and determining the sourcing strategy. Pre-qualification, the third step is the process of identifying potential supply source and gathering a limited pool of suppliers. The last step in the supplier selection process is final selection. Best supplier is selected from firstly selected supplier. While qualitative tools are used in the first two steps, quantitative tools are used in last two steps.

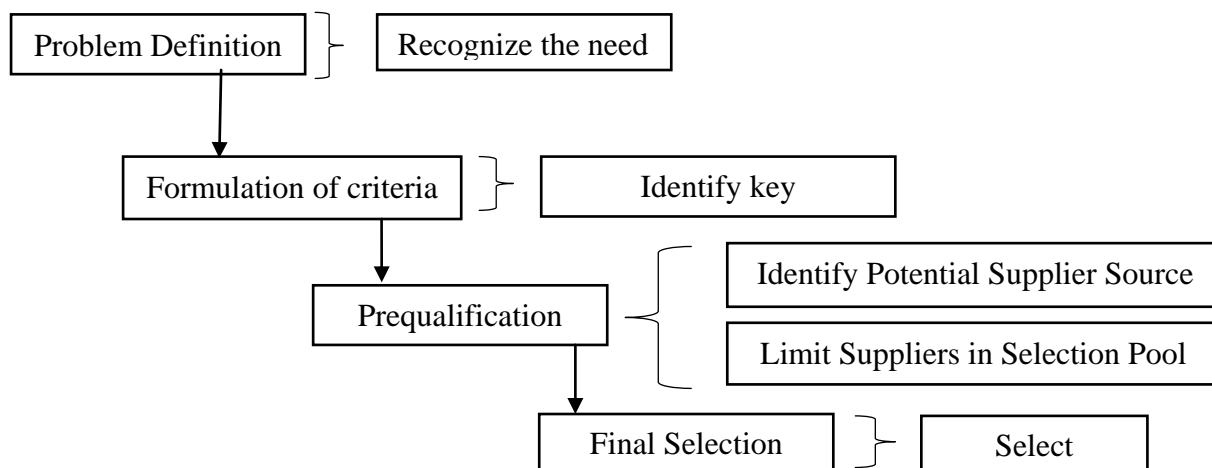


Fig.1 Supplier Selection Process

The objective of this work is to develop TOPSIS method for vendor selection. In order to comply with collecting quantitative and qualitative data for TOPSIS vendor selection model that could be applied by a seven steps approach was performed to ensure successful implementation.

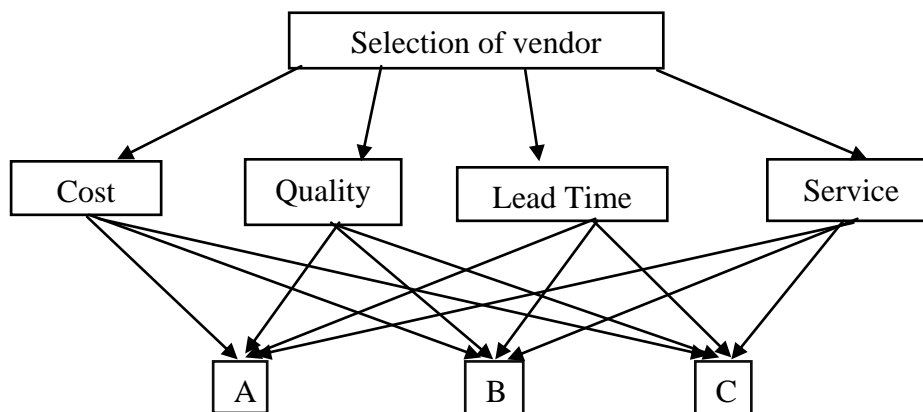


Fig.2 Selection criteria of TOPSIS

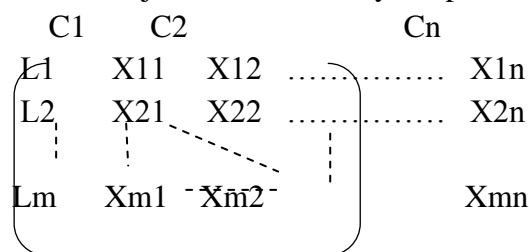
Selection of a supplier for manufacturing firm is a big decision-making problem and reflection of customer satisfaction. Some of the main criteria of material are cost, quality, lead time, service. There are three existing vendors for procurement of control panel. The correlation chart is shown in figure 2.

TOPSIS Method-

P.K. Parida and S.K.Sahoo⁽¹²⁾ states that TOPSIS was first presented by Yoon (1980) and Hwang and Yoon (1981), for solving Multiple Criteria Decision Making (MCDM) problems based on the concept that the chosen alternative should have the shortest Euclidian distance from the Positive Ideal Solution (PIS) and the farthest from the Negative Ideal Solution (NIS). For instance, PIS maximizes the benefit and minimizes the cost, whereas the NIS maximizes the cost and minimizes the benefit. It assumes that each criterion require to be maximized or minimized. TOPSIS is a simple and useful technique for ranking a number of possible alternatives according to closeness to the ideal solution.

Mathematically the application of the TOPSIS method involves the following steps.

Step 1: Determine the objective and identify the pertinent evaluation criteria.



Decision matrix based on all the information available for the criteria. Each row of the decision matrix is allocated to one alternative and each column to one criterion. Therefore, an element, x_{ij} of the decision matrix shows the performance of i th alternative with respect to j th criterion.

| | | | | |
|---|-------|---------|-----------|---------|
| | Cost | Quality | Lead time | Service |
| A | 75000 | Good | 40 | Best |
| B | 73819 | Best | 30 | Better |
| C | 77000 | Better | 30 | Good |

Table 1. Data collection for different attribute

Good is considering between 5-6, better is considering between 7-8, best is considering between 9-10 as per expert opinion. Hence revised table is-

| | | | | |
|---|-------|---------|-----------|---------|
| | Cost | Quality | Lead time | Service |
| A | 75000 | 5 | 40 | 9 |
| B | 73819 | 9 | 30 | 8 |
| C | 77000 | 7 | 30 | 6 |

Step 2: Calculate weightages for TOPSIS methodology by using DELPHI method.

The Delphi method belongs to the subjective-intuitive methods of foresight. Delphi was developed in the 1950's by the Rand Corporation, Santa Monica, California, in operations research. Consensus method such as Delphi survey technique are being employed to help enhance effective decision making. The Delphi survey is a group

facilitation technique, which is an iterative multistage process, designed to transfer opinion into group consensus.

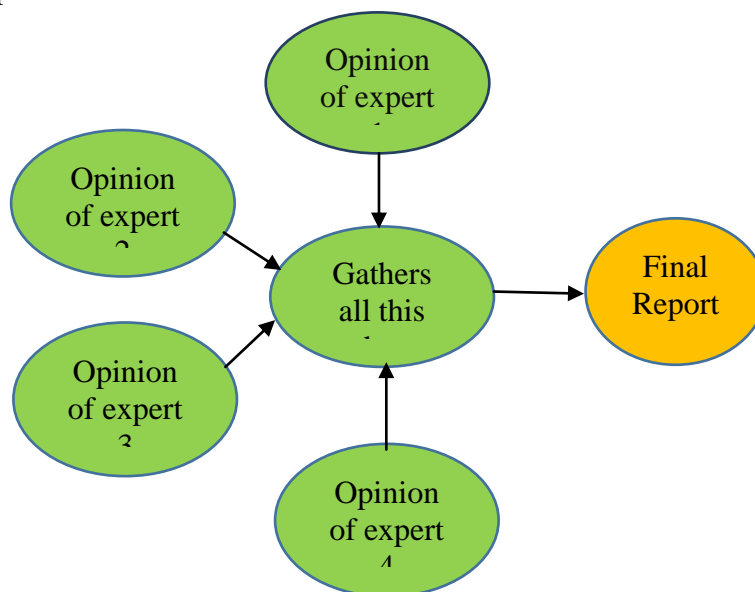


Fig 3. Delphi method

2.1. Delphi expert consultation

Guofeng Chen et al⁽¹³⁾ studied on Research and Implementation of Index Weight Calculation Model for Power Grid Investment Returns. Delphi method, entropy method are used to calculate the weight, and finally combination of three methods to calculate the weight, get the Combination weights. Shi-Fan Han⁽¹⁴⁾ researched on Construction of an evaluation index system for the innovativeness of nursing papers using the Delphi method.

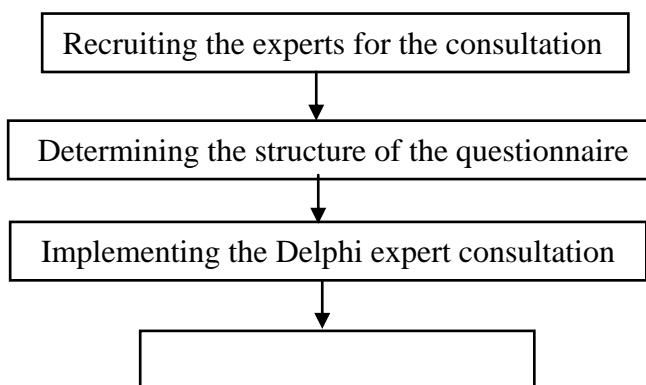


Fig 4. Implementation of DELPHI method

2.1.1. Recruiting the experts for the consultation

A total of four experts specializing in purchase, quality work for firm were preliminarily selected to conduct the Delphi expert consultation. The inclusion criteria for the experts were as follows: engaged in the peer review and editorial work of manufacturing outsourcing and quality inspection for more than 3 years; with an associate senior title or above; having a bachelor degree or above; and interested in and willing to participate in this study. So selected experts are A, B, C, D.

2.1.2. Determining the structure of the questionnaire

The questionnaire was composed of scoring of four criteria: the qualitative data is mentioned as good, better, best. All items in the table were scored using-10 point scoring system: Based on satisfaction. An additional column was set for expert's comments in revision. Give rating for attribute- cost, quality, lead time, service in the scale 1-10.

2.1.3. Implementing the Delphi expert consultation

From past experience of various vendors, the round of expert consultations was conducted; The rounds of consultation were implemented by distributing the questionnaire in person via written format.

| Attributes | A | B | C | D |
|------------|---|---|---|---|
| Cost | 7 | 8 | 7 | 8 |
| Quality | 6 | 7 | 6 | 6 |
| Lead time | 6 | 7 | 6 | 6 |
| Service | 5 | 5 | 5 | 5 |

Table 2. Data collection from DELPHI

2.1.4. Calculate the weightages by using Aggregation of individual judgements (AIJ)

R. Venkata Rao⁽¹⁵⁾ studied on Aggregation of individual judgements (AIJ) in "Decision Making in the Manufacturing Environment" for calculating weightages of attribute. It is assumed that several individuals act as one individual and their judgements, i.e., the opinions expressed regarding the relative importance of the attributes, are aggregated using the weighted geometric mean to form a single composite attribute weight representing the total view of the group.

There are n decision makers ($g(k)$, $k = 1, 2, \dots, n$)

$lg(k)$ is the importance of the decision maker in the group, and $\sum lg(k) = 1$.

$b_{ij} (AIJ) = \Pi (b_{ij} g(k))^{lg(k)}$

| Importance of decision maker | 70 | 80 | 50 | 60 |
|------------------------------|----|----|----|----|
| Attributes | A | B | C | D |
| Cost | 7 | 8 | 7 | 8 |
| Quality | 6 | 7 | 6 | 6 |
| Lead time | 6 | 7 | 6 | 6 |
| Service | 5 | 5 | 5 | 5 |

Table 3. Importance to respective decision maker

Importance of decision maker are in the range (10-100).Score for different attribute given by decision maker are in the range (1-10)

Normalization for decision maker importance-

| | | | | |
|---------|----------|----------|----------|----------|
| $lg(k)$ | 0.269231 | 0.307692 | 0.192308 | 0.230769 |
|---------|----------|----------|----------|----------|

Hence matrix $(b_{ij} g(k))^{lg(k)}$ is given below

| | | | |
|----------|----------|----------|----------|
| 1.688598 | 1.896155 | 1.453847 | 1.615866 |
| 1.619952 | 1.819827 | 1.411382 | 1.512075 |
| 1.619952 | 1.819827 | 1.411382 | 1.512075 |
| 1.542355 | 1.640846 | 1.362754 | 1.449776 |

Weightages for attribute are calculated by $b_{ij} (AIJ) = \Pi (b_{ij} g(k))^{lg(k)}$

| | |
|-----------|----------|
| Cost | 0.299619 |
| Quality | 0.250608 |
| Lead time | 0.250608 |
| Service | 0.199166 |

Table 4. Result of Aggregation of individual judgements (AIJ)

Step 3: Calculate a normalized decision matrix

The normalized values denote the Normalized Decision Matrix (NDM) which represents the relative performance of the generated design alternatives.

$$D_{ij} = (X_{ij} / [\sum X_{ij}^2]^{1/2}) * W_j \quad (j=1,2,\dots,M) \tag{1}$$

| | Cost | Quality | Lead time | Service |
|------|-------------|---------|-----------|----------|
| A | 5625000000 | 25 | 1600 | 81 |
| B | 5449244761 | 81 | 900 | 64 |
| C | 5929000000 | 49 | 900 | 36 |
| SUM | 17003244761 | 155 | 3400 | 181 |
| ROOT | 130396.4906 | 12.4499 | 58.30952 | 13.45362 |

Step 4: Calculate a weighted normalized decision matrix

Hence Weighted Normalized matrix is-

| Weightage | 0.29961867 | 0.250607846 | 0.25060785 | 0.19917 |
|-----------|-------------|-------------|-------------|----------|
| | Cost | Quality | Lead time | Service |
| A | 0.172331328 | 0.100646533 | 0.171915564 | 0.133235 |
| B | 0.169617684 | 0.18116376 | 0.128936673 | 0.118431 |
| C | 0.17692683 | 0.140905146 | 0.128936673 | 0.088823 |

Step 5: Obtain the ideal (best) and the negative ideal (worst) solutions using the following equations:

Cost and lead time are nonbeneficial, service and quality are beneficial.

$$V^+ = \{(\sum V_{ij}/j \in J)[i=\max], (\sum V_{ij}/j \in J')[i=\min]/i=1,2,\dots,N\} \tag{2}$$

$$V^- = \{(\sum V_{ij}/j \in J)[i=\min], (\sum V_{ij}/j \in J')[i=\max]/i=1,2,\dots,N\} \tag{3}$$

where, $J = (j = 1,2,\dots,M) / j$ is associated with beneficial attributes and $J' = (j = 1,2,\dots,M) / j$ is associated with non-beneficial attributes.

| | | | | | |
|-------------------------|----------------|-----------------|-----------------|-----------------|--------------|
| POSITIVE IDEAL SOLUTION | V ⁺ | 0.1696176 84 | 0.1811637 6 | 0.1289366 73 | 0.13323 5 |
| NEGATIVE IDEAL SOLUTION | V ⁻ | 0.1769268 3 | 0.1006465 33 | 0.1719155 64 | 0.08882 3 |

Step 6: Obtain the separation measures. The separations of each alternative from the ideal and the negative ideal solutions are calculated by the corresponding Euclidean distances, as given in the following equations:

$$S_i^+ = \{\sum(V_{ij} - V_j^+)^2\}^{1/2} \quad (j=1,2,\dots,M) \quad (i=1,1,\dots,N) \quad (4)$$

$$S_i^- = \{\sum(V_{ij} - V_j^-)^2\}^{1/2} \quad (j=1,2,\dots,M) \quad (i=1,1,\dots,N) \quad (5)$$

| | Cost | Quality | Lead time | Service | S+ |
|---|------------|-------------|------------|---------|-------------|
| A | 0.00271364 | -0.08051723 | 0.04297889 | 0 | 0.09131031 |
| B | 0 | 0 | 0 | -0.0148 | 0.014803865 |
| C | 0.00730915 | -0.04025861 | 0 | -0.0444 | 0.060386831 |

| | Cost | Quality | Lead time | Service | S- |
|---|--------------|-------------|--------------|----------|-------------|
| A | -0.004595502 | 0 | 0 | 0.044412 | 0.044648723 |
| B | -0.007309146 | 0.080517226 | -0.042978891 | 0.029608 | 0.096230193 |
| C | 0 | 0.040258613 | -0.042978891 | 0 | 0.058889227 |

Step 7: The relative closeness of a particular alternative to the ideal solution is computed as follows:

$$P_i = S_i^- / (S_i^- + S_i^+) \quad (6)$$

| | | |
|---|-------------|---|
| A | 0.328398355 | 3 |
| B | 0.866672755 | 1 |
| C | 0.493722109 | 2 |

Table 5. Result of TOPSIS

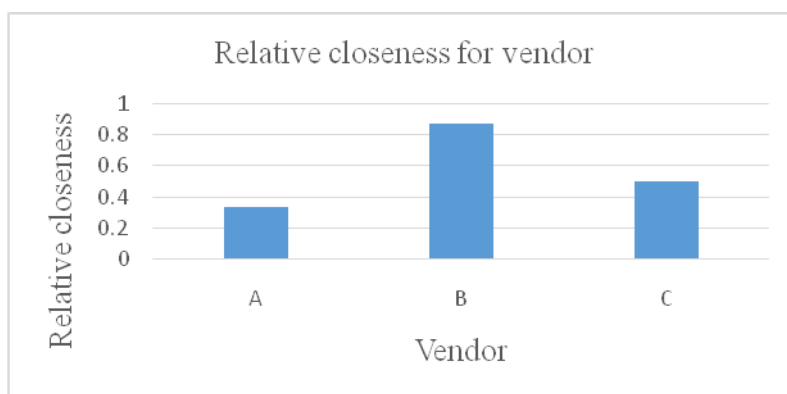


Fig 5. Histogram of different vendors

Step 8: A set of alternatives is arranged in the descending order, according to P_i value, indicating the most preferred and the least preferred solutions. The maximum value is the best one. If the value is lesser than the value of 1, then it is acceptable condition.

| | | |
|---|-------------|---|
| B | 0.866672755 | 1 |
| C | 0.493722109 | 2 |
| A | 0.328398355 | 3 |

Table 6. Ranking of vendor based on TOPSIS

CONCLUSION

The proposed new procedure for vendor selection is to find the best vendor among available ones using of decision making method. TOPSIS is applied to achieve final ranking preferences in descending order; thus allowing relative performances to be compared.

The Delphi survey is a group facilitation technique, which is an iterative multistage process, designed to transfer opinion into group consensus.

From the results it is observed that vendor A, B, C obtained the relative closeness to ideal solution and the values are 0.328398355, 0.866672755, 0.493722109 respectively. It is observed B is identified as the best vendor among the considered ones which has the best relative closeness value

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