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KARAM Society
6, MG Road, Opposite Bhartiya International Ltd. [E-52], New Delhi-110030, India
Mobile: +91-9868022044 Office: +91-11-41431051
Whats App: 9868022044
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कर्म:Society

Kedar Amar Research and Academic Management Society

Kedar Amar Research and Academic Management Society known for it's acronym KARAM Society has been established in the year 2009 keeping in dream the empowerment and comprehensive expansion needs of society. The society has been established as a "Not for Profit" Company under the societies registration act, 1860 with a Registration no. S/65067/2009. In the present state -of-affairs, the KARAM Society engaged in the advancement of medical knowledge and provision of assistance to medical students and professionals.

The mandate behind KARAMS is to make certain transparency, accountability and adherence to corporate governance norms. Recently KARAM Society had put it's ware bouts in an online publishing and collaborated with Open Journal Inc. and Publishes two hard core empirical research journal on information systems (www.gjeis.org) and in medical science (www.agems.in). Both the Research journals are now available in a Brick-&-Mortar mode also with an ISSN and eISSN Numbers respectively. The rationale of the KARAM Society is to promote empowerment and inclusive development with an emphasis on social, digital and financial inclusion; strengthening of delivery systems and participatory democracy for bringing about a systemic change to help meet development objectives better. During the past two decades founder members of KARAM Society have travelled transversely the country to learn critique and encourage social, digital, medical and financial inclusion. In the process, knowledge repositories have been created on what works—the most excellent practices—actively engaging all stakeholders from policy makers and civil society to ordinary citizens. The KARAM will allocate this knowledge for progression and nation-building all the way through e-learning modules and virtual platform for practitioners and publishing video documentaries on our portals. Recently it had started new portal http://open-journal.com which is backed by the gamut of great academician from different part of the world.

In the last few years KARAM Society conducted numerous health camps in a charitable mode in a various districts of Haryan, Rajasthan, Uttarpradesh, New Delhi, etc. which are organized with support from corporate, civic bodies, the government, NGOs and individual volunteers. KARAMS has conducted over 75 general health camps till date and has benefitted more than 25, 000 people directly. In line with the policy to provide healthcare services to the community around our facilities, KARAM Society has started a Mobile Medical launched Mobile Medicare Unit (MMU hereafter) to address the health concerns of older persons living in urban slums. Technical aids are provided to the poor elderly that could improve their quality of life and make them independent. Eye camps are organized every year now and then to screen beneficiaries for cataract. Awareness about diseases and healthy living is an important component and constant effort by KARAM Society is being made in this direction. The team of KARAM SOCIETY India consists of a medical doctor, a community health mobilizer, a pharmacist and a social protection officer. The team will not only provide curative medical services but will also raise public awareness on preventive and promotive aspects through awareness generation and multi-disciplinary medical camps, etc.

KARAM Society best practices have been documented as information cards, video case studies, policy and white papers that are consistently shared with group of people at great, so that it can become a wider learning process. Having done all the above driven by individual enthusiasm and excitement, the members now felt the need to create an institutional framework that not only takes this work forward and emerges as a key expansion institution but also helps in facilitating implementation mechanisms such that the benefits of wide-ranging development are actually received by society.

Corporate Office:
6. M. G. Road,
Opposite Bhartiya International Ltd. (E-52)
New Mangalapuri, New Delhi-110030, India
Phone: +91-11-41431051
Email: karamsociety@gmail.com
Website: www.karamsociety.in
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Message from Editor Desk

Big Data has ascended as a Catchword in an extravagant Length of Time

Dear GJEISians,

The whole ball of wax we create leaves a digital footprint. Big data had ascended as a catchword in recent years. Principally, it means a prodigious aggregate of information that is stimulated as trails or by-products of online and offline doings — what we get using credit cards, where we travel via GPS, what we 'like' on Facebook or retweet on Twitter, or what we bargain either through "apnidukaan" via amazon, and so on. In this era and stage, the Data as a Service (DaaS) battle is gaining force, spurring one of the fastest growing industries in the world."Big data" is a jargon for data sets that are so gigantic or multi-layered that old-style data processing application software's are deprived to concord with them. Challenges contain apprehension, storage, analysis, data curation, search, sharing, and transmission, visualization, querying, and updating information privacy. The term "big data" usually refers self-effacingly to the use of extrapolative analytics, user behaviour analytics, or sure other advanced data analytics methods that extract value from data, and infrequently to a separable size of data set

Enterprises are progressively looking to fastening insights into the data. Many big data projects originate from the pre-requisite to rejoinder specific business questions. With the right big data analytics platforms in place, an enterprise can increase sales, increase helpfulness, and progress operations, customer service and risk management. Business can be transformed in all sorts of ways. In the today's advances in analyzing big data allow researchers to decode human DNA in minutes, forecast where terrorists plan to attack, regulate which genetic factor is typically possible to be accountable for certain diseases and, of course, which ads likely to respond to on Facebook. The concept of big data has been around for years; most organizations now understand that if they capture all the data that streams into their businesses, they can apply analytics and get significant value from it. But even in the 1950s, decades before anyone uttered the term "big data," businesses were using basic analytics (essentially numbers in a spreadsheet that were manually examined) to uncover insights and trends.The new paybacks that big data analytics carries to the board, conversely, are swiftness and effectiveness. Although a few years before a corporate house would have gathered information, run analytics and extracted info that could be used for forthcoming decisions, nowadays that business can categorize insights for instantaneous decisions. Another instance comes from one of the principal mobile carriers in the world. France's Orange launched its Data for Development project by releasing subscriber data for consumers in the Ivory Coast. The 2.5 billion records, which were made anonymous, comprised details on calls and text messages exchanged between 5 million users. Researchers accessed the data and sent Orange proposals for how the data could serve as the foundation for development projects to improve public health and safety. Proposed projects included one that showed how to recover public safety by tracking cell phone data to map where people went after emergencies; another showed how to use cellular data for disease repression.

India is the second-largest Internet market in the world, with 331 million Internet users. NASSCOM predicts that India's big data market will be a $16-billion industry by 2025, with a 32% share of the global market and a CAGR of 26%. A simple search — 'Big Data in India' — in Google's news search bar reveals that big data can make Indian cities a better place to live in, upsurge job opportunities, support track fraud, and stimulus politics. We have an enormous amount of data from all layers of the societal pyramid, but a proportion of it is sitting quiescent due to ignorance and lack of infrastructure. To infiltrate this problematic situation, JAM — Jan Dhan, Aadhaar, Mobile (Bank Account, Aadhaar Number, Smartphone) — is set to replace Bijlee, Sadak, Paani (Electricity, Transport, Sanitation) and Roti, Kapdaa, Makaan (Food, Clothing, Shelter) as the trinity leading India's future growth.

GJEIS as a scholastic Journal facilitates well-groomed commercial leaders with its research initiatives and rigours blind and peer review process. The GJEIS is right now listed in almost fifty directories in the world, equipped with Digital Object Identifier (DOI) from crossref USA http://www.crossref.org . It also had an average impact factor of 1.68 from the various

impact factors rating agencies. The journal with its eight volumes focused on this part and accentuate how changes brings a archetype transferal on the advantageous side and create tremendous market opportunities in products and services. Mandate of a GJEIS is to disseminate the brand of Enterprise, Information and System in business and outside business. It is designed to enlighten people that synchronization of three words is not just a budgetary objective, but is more omni-present, that is why we have to get transversely what the academics and the peers are doing and saying about technological pitch in creating a niche. We have built a comprehensive squad to make GJEIS sincerity. We had moved to a new portal from mid of 2016 to http://www.informaticsjournals.com/index.php/gjeis/index with a target to toughen GJEIS more scholastically and study oriented. We had also now prepared the open access just to boost citation as well as reaching to unreached. To one side from it, the dedicated page in Facebook created in order to touch with the GJEIS Fraternity https://www.facebook.com/GJEiS . The GJEIS URL has been moving to a new contemporary Google-hosted JavaScript service which follow community-curated online directory, helps in indexing and facilitate in providing s access to peer-reviewed articles. It is also equipped with search engine optimization and web analytics for statistical analysis.

Dr. Subodh Kesharwani

Founder, Editor-in-Chief

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Amalgamating Data Analytics and Machine Learning for Predicting Sex Ratio and Infant Mortality Rate to Improve Gender Composition

Amita Jain[1]*, Amishapriya Singh[2], Devendra Kumar Tayal[2] and Sonakshi Vij[2]

[1]Department of CSE, AIACTR, New Delhi – 110031, Delhi, India; amita_jain_17@yahoo.com

[2]Department of CSE, IGDTUW, New Delhi - 110006, Delhi, India; amisha.sh22@gmail.com, dev_tayal2001@yahoo.com, sonakshi.vij92@gmail.com

Abstract

Different parameters are used to obtain a detailed account of population compositionwithin a country or its states in terms of sex. These parameters include sex ratio, infant mortality rate, foeticide rate etc. In this paper, we analyse the trends in sex ratio of India and some of its states, the number of children ever born to a married women given that all are females and the number of surviving females is zero, infant mortality rate, child birth ratio, percent of boys more than girls. Through these parameters, we developed a prediction system for infant mortality rate and sex ratio of India, provided the current trends continue without substantial changes. We have collected the data from reliable government sources and used platforms of R programming for prediction purposes and RStudio for visualisation in order to present a visually appealing user interface. Although the data available to us was highly limited, our system was able to make predictions with an accuracy of 93%. Using the results, we have developed several conclusions and observation regarding the skewed gender composition in India and some of its states. Leveraging our observations, we have not only identified the problem areas but also tried to direct attention towards the policies/laws that have proved to be inefficient in alleviating this skewed sex ratio (in favour of males) in India.

Keywords: Infant Mortality Rate, Regression, R Programming, RStudio, Sex Ratio

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Introduction

Data Analysis has a dynamic field of application. It has been deployed in the fields of health services research[1] policy research[2], e-learning[3], landscape ecology[4], meteorology and oceanography[5], finance etc. Data analysis involves and covers the process of cleaning, examining, transforming, visualising and modelling of the available data in order to uncover interesting patterns or trends, make deductions, extract information and support decision-making. Here the objective is to understand the bigger picture to identify similarities and dissimilarities. One of the many techniques for performing data analysis is data mining[9]. It covers modelling and knowledge discovery for the purpose of making predictions instead of information. In this paper, we will be utilising the concepts of data mining[8] to a large extent.

This paper tries to identify the problem area for the continual skewed sex ratio in India and the failure of government policies and initiatives to alleviate the same. Sex Ratio is defined by the number of females per 1000 males in the population. We have also analysed population of girls and boys state-wise, Infant Mortality Rate, defined as the number of infant deaths before the age of one per 1000 live births, and ever married women by the number of children born. We have taken the case of all female children and zero survivors. Additionally, we have made predictions for sex ratio and infant mortality rate to provide and insight into the future if current trends continue. This will allow the government and the policy makers to directly view and compare the improvements and impacts that their policies bring.

For the purpose of implementations, we have used Rstudio and R programming. RStudio was used for all the analysis to present a better looking user interface and R was used for the purpose of predicitions. All the data have been collected from reliable government sources.

The remainder of the paper is organised with section 2 introducing the concepts that have been leveraged in this paper, section 3 outlining the implementation and results, section 4 covering the following discussions and finally section 5 concluding our work.

*Author for correspondence

2. Data Analysis Concepts

In this paper, we have used several data mining concepts[10]. The various steps followed for knowledge discovery from data[11] include:

i. Data cleaning: It involves removal of invalid entries and noise from data. Sometimes, this step may also involve bringing regularity in data definitions to introduce uniformity in the data set.

ii. Data integration: Data collected from various sources are combined and they are consolidated to remove ambiguity and introduce uniformity.

iii. Pattern mining: Useful and informative patterns are extracted from the data set with the help of exploratory tools such as modelling techniques.

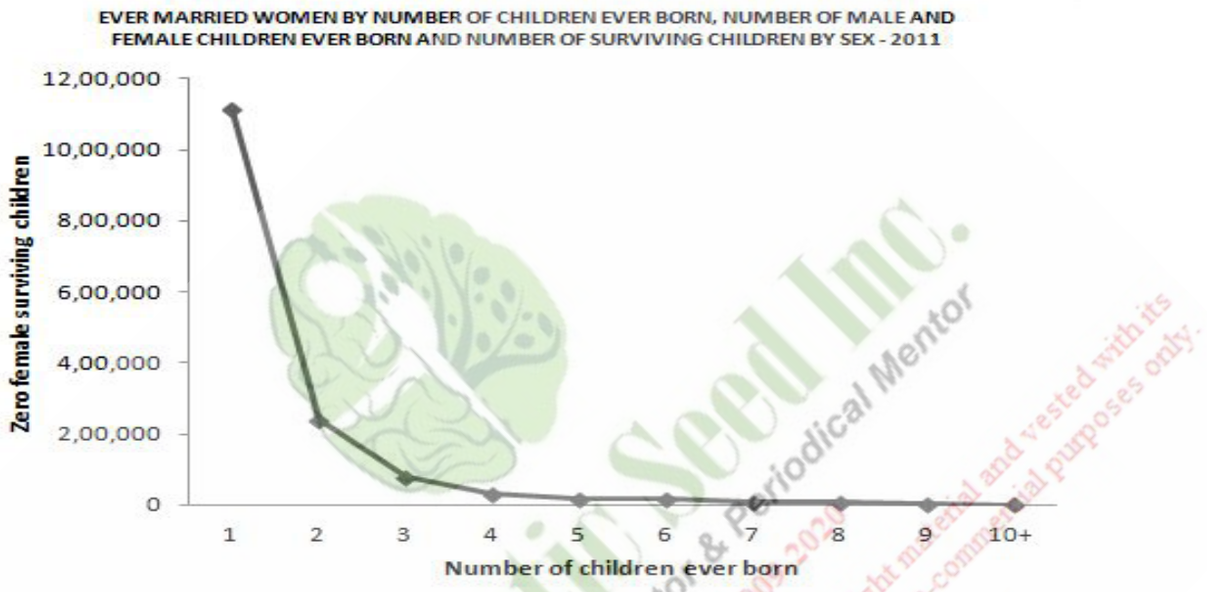

Figure 1. Ever married women by the number of children born assuming all are girls and the number of cases of zero survivors in India in both rural and urban settlements.

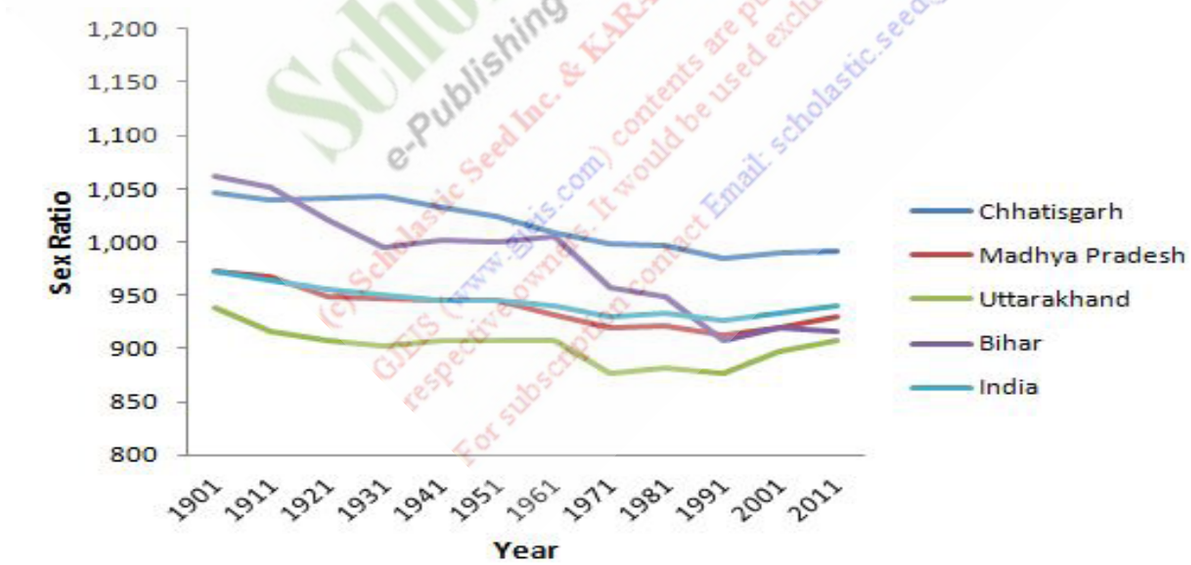

Figure 2. Sex Ratio in India and four of its sates-Chhatisgarh,

iv. Data Visualisation: It involves presentation of knowledge collected from the data set after applying modelling.

This whole procedure is also known as knowledge discovery from data (KDD)[13]. All the above steps were followed to prepare the data and extract useful patterns from the same. The following section highlights our implementation results.

For the purpose of prediction/modelling, we have used regression. Regression12 can be classified as:

a. Supervised[15]: As the name suggests, supervised regression uses supervision for regression i.e. labelled data to train and test the prediction model. It is ones of the easiest methods for implementing a prediction module. Inputs and outputs are used to find a function that generalises this behaviour.

Unsupervised7: Here, only inputs are provided and no outputs. The problem and individual knowledge help in prediction technique. It is similar to unsupervised classification.

Semi-supervised6: In semi-supervised technique, the data used is a mix of labelled and unlabelled. As labelled data is more expensive to generate, this method finds a trade off between supervised and unsupervised technique to achieve highest efficiency without compromising the accuracy or the ease of implementation.

In this paper, we have used supervised regression called linear regression[14]. Linear Regression is a statistical approach for modelling the relationship between a scalar dependent variable and one or more independent/explanatory variables. When there is only one independent variable, the technique is called simple linear regression. The data set available to us was such that it facilitated the use of supervised learning and we found it to be the most feasible and efficient option in our case.

3. Implementation and Results

The data collected from different sources were cleansed, integrated and then mined to identify useful patterns and trends. We have presented the different visualisation techniques that we used in our implementation for different types of data sets. The visualisation shows interesting patterns and allows us to draw important conclusions which are summarised in the following sections.

Figure 1 shows ever married women by the number of children born assuming all are girls and the number of cases of zero survivors in India in both rural and urban settlements. From the plot, it is clear that the number of only child being a girl and not surviving is around 11,50,000. It decreases as the number of children increases.

Figure 2 shows trends seen in sex ratio in India as compared to the sex ratio of four different states. In 2011, the sex ratio of India was 940.

Madhya Pradesh, Bihar, Uttarakhand from 1901 to 2011.

Figure 3 and 4 show the sate-wise percentage of boys more than girls and number of girls born per 1000 boys respectively. This visualisation allows us to identify the areas that have low girl child birth rates and the areas that have higher percentage of boys than girl.

Figure 3. Percentage of boys more than girls for different states.

Figure 5 shows the Infant Mortality Rate in India. As the figure suggests, IMR in India has shown continual decrease in its value which is an evidence of the fact that the death rate of newborns has decreased over the years which in turn implies that the high (and in some cases increasing) death rate of girl child cannot be attributed solely to healthcare problems.

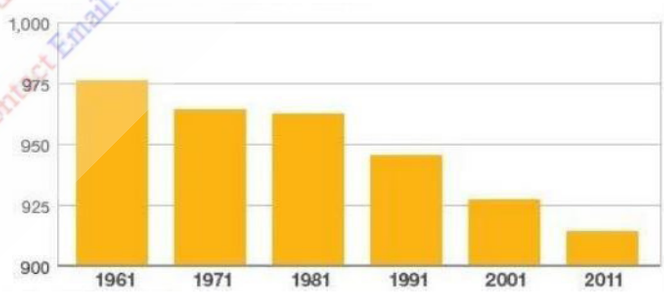

Figure 4. Number of girls born per 1000 boys.

We have also made predictions on IMR and sex ratio of India using Linear Regression. The results are summarised in Table 1 and Table 2 respectively. Although the data available to us was

highly limited, our system was able to make predictions with an accuracy of 93%.

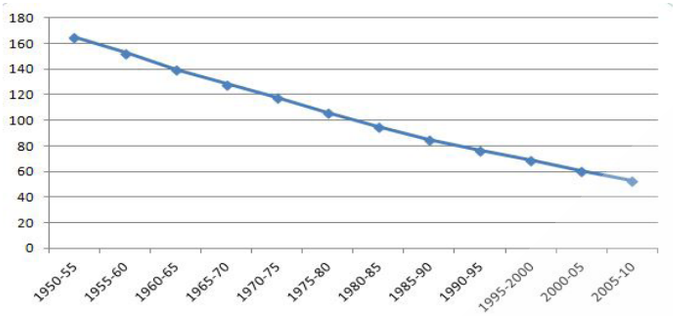

Figure 5. Infant Mortality Rate (IMR) for 1950 to 2010.

Table 1. IMR in India Prediction Data Comparison Chart

Year	Observed Value	Predicted Value
1997	77	77
2003	65	62
2007	52	49

Table 2. Sex Ratio in India Prediction Data Comparison Chart

Year	Observed Value	Predicted Value
1991	927	928
2001	933	930
2011	940	936

4. Discussions

Our implementation results show that the sex ratio of states like Madhya Pradesh and Uttarakhand is among the lowest in India. Moreover, the rate of increase in the ratio value is either too low or in some cases even negative. One direct implication of the result is identifying such regions and increasing vigilance in the local hospitals for illegal abortions, pre-natal sex determination of the child and female foeticide. There is a need for revision of healthcare policies and abortion laws in such states/regions.

Similarly, the analysis done on female children ever born and zero survivors shows an honest problem that exists in our country that the government is continually failing to tackle.

Our prediction results have shown that the IMR is decreasing continuous which is an evidence of the success of the governmental health policies in this area. However, the sex ratio in India shows unpredictable increases and decreases in its value. Although the value has never exceeded that in 1901, our prediction shows that if the current trends follow, the sex ratio in India will be greater than its 1901 value of 972 by 2031.

5. Conclusion

Data Analysis has a varied field of application. In this paper, we have applied it to indentify and tackle the gender composition problems existing in India. We have identified the informative patterns that exist in the data and made predictions based on those to provide a thorough understanding of future implications of these patterns. We have highlighted the areas that have witnessed improvements and those that are in dire need on it.

In the future, we aim to extend the implementation to include more varied data sets and also using semi-supervised and/or unsupervised regression for faster and more reliable predictions. Moreover, a more detailed data set can be employed for prediction and the accuracy of the prediction system can be future improved by using a higher degree polynomial for curve fitting etc.

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Digital Branding and its Impact on Psychology of Youth and Middle Aged People in Delhi NCR

Lokinder Kumar Tyagi[1*], Ankit Gupta[2] and Gurjit Singh[2]

[1]Professor (OB and HRM), Amity School of Business, Amity University, Noida - 201313, Uttar Pradesh, India ; lokinder.tyagi@gmail.com

[2]B.Tech and MBA Scholar, BVIMR, New Delhi - 110063, Delhi, India

Abstract

Branding is an understanding or a position established by a team in any Company with the consent of customers with excellent and effective communication, services and products. The right branding of any company may lead to success or negligence on branding efforts may cause to failure. The impact of brand will reduce competition, unreachable products & services and also avoid customer's dissatisfaction. In the present age of globalization, digital branding has emerged as a one of very strong tool for direct marketing. With digital marketing a company can communicate straight and interactively with their target customers. The present study is indeed very important for the corporate world, corporate leaders, researchers and academicians as digital branding is emerging one of the prominent way for the sustainable development and growth.

This study has attempted to analyze the merits and demerits of digital branding and also to understand its impact on the psychology of youth and middle aged people in Delhi NCR. Primary and secondary sources of data collection have been used to attain the objectives of the study.

Keywords: Digital Branding, Globalization, Media, Networking, Psychology

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1. Introduction

India has a very huge market and that is why world is looking anxiously for business opportunities. The Indian market is influenced by the la test trends of e-mail and information system. Internet use is very normal among Students, youngsters and professionals and the use of mobile is increasing. The velocity of change continues to be fast with digital channels continually growing in volume. The Trend of using internet is increasing and more people are spending more time online. The use of digital tools including social networking sites, various apps and their role is ever-growing in human life. It is not only the customer and consumers are using internet for their shopping but Indian industry is also experiencing a paradigm shifts in online businesses. The smart businessmen are changing their marketing strategies and adopting use of advance technology including Information Communication Technologies (ICT) in their business.

Though digital advertising industry is very young in India and working in the same way as Western European internet Advertising Industry was working 6 years ago, but it is also enjoying fast growth. In India this sector is headed by financial services, Information Technology, Mobile, consumer package goods, motors etc. which account for very small share of national online advertising market.

Smart marketers keep on top of the scale of change and ensure their marketing strategies and touch point's mirror where the consumer is spending their time. These notes give a sense of the scale of change we've seen so far and imply the scale of what is coming.

2.Objectives

The main objective of this study is to analyze the merits and demerits of digital branding and to understand its impact on the psychology of youth and middle aged people in Delhi NCR.

3. Literature Review

Although there has been much research on individual measures of Advertising Effectiveness and digital branding but few studies have examined the relationship among these measures. Stewart's (1986) study was designed to examine the relationship among three measures of advertising performance. Even in (970's many reported that recall understates the true remembrance of advertising. However, an additional concern had been raised by Zielske

*Author for correspondence

(1982) about day after recall as a copy testing technique in terms of whether it penalizes 'feeling' ads as opposed to 'thinking' ads

In consistent with standards set under DAGMAR (Defining Advertising Goals for Measured Advertising Results,; 1961) and PACT (Positioning Advertising Copy Testing; 1982), Chow et.al (1992) proposed a new copy testing method SEQUENCE (Structural Equation Estimating of New Copy Effectiveness). It extends previous advertising copy-testing research by permitting an assessment of the strength of the linkages among brand beliefs, brand attitudes and purchase intention

Aaker and Myers (1982)[1] describe the procedure involved in this method. ".....respondents (who report having read a specific issue of a magazine) are taken through the magazine and, for each ad, are asked if they saw it in the issue. The 'noted' score is the percentage of respondents who answer affirmatively. Two companion measures are 'seen' associated (noted the name of the ad) and 'read most' (read more than 50 percent of the copy)." But Starch scores have also been criticized as invalid recognition measure due to over claiming by respondents.

Zinkan and Gelb (1986) probed into whether Starch scores predict much sought-after consumer responses as favourable attitudes and intention to purchase the advertised brand. They designed a model to clarify this issue and tested this model in a study. The results offer some evidence to support that Starch scores do predict Attitude towards brand; and Brand Attitude predicts the Purchase probability. Thus advertisers who use the Starch scores to compare alternative creative treatments have evidence that the scores are positively related to purchase intention, with attitudes serving as the explanatory intervening variable.

4. Limitation of the Study

The research study is limited to a few aspects. Firstly, this study was conducted in Delhi-NCR only hence may not be applicable to other areas. The sample size was selected as per our convenience. Since study has 76.36 per cent of youth hence findings may vary, if different number of data collected from middle aged people.

5. Research Methodology

This study is a Descriptive research, which is used to describe characteristics of a population or phenomenon being studied as it is attempting to study the affect of digital branding on psychology of youth and middle aged people.

6. Sources of Data Collection

In this research Primary as well as secondary sources of data collection has been used. Primary data has been collected with the help of pre-planned Questionnaires and secondary data has been collected through newspaper, magazines, journals, Reports, websites etc.

7. Techniques for Data Analysis

In this study percentage value, Pie chart and Bar graph have been used to analyze the data by using MS-Excel and inferences of the collected data were drawn accordingly.

8. Sample Size

It was decided to collect the relevant data from a sample size of 100 people including 50 youth aged between 21-30 years and 50 middle aged between 31-40 years working people. The researchers could received 70 questionnaire duly completed and 15 questionnaire were incomplete and wrongly filled by the candidates hence rejected. The data analysis of 55 questionnaires was completed.

9. Data Analysis

The collected data was arranged, tabulated, edited and their values & inferences were drawn. The question wise inferences drawn from the responses received through questionnaire are as under:

Table 1. Demographic Status of Respondents

Target Audience		%age
Youth (21-30 yrs)	42	76.3%
Middle Aged (31-40 yrs)	13	23.7%
Total	55	100%

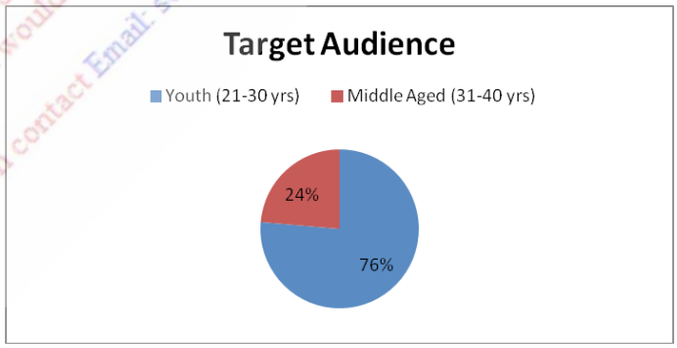

Figure 1. Demographic data of Youth.

The demographic data indicated that 76% of the youth aged between 21 to 30 years have responded and only 24% of middle aged (31-40 years) people have responded.

Table 2. Youth and Middle Aged Comparison

Particulars	Youth (21-30 yrs)	%age	Middle Aged (31-40 yrs)	% age
1 hr or less	3	7.14%	3	23.07%
1-3 hrs	17	40.47%	3	23.07%
3-5 hrs	10	23.80%	3	23.07%
5 and above	12	28.57%	4	30.76%

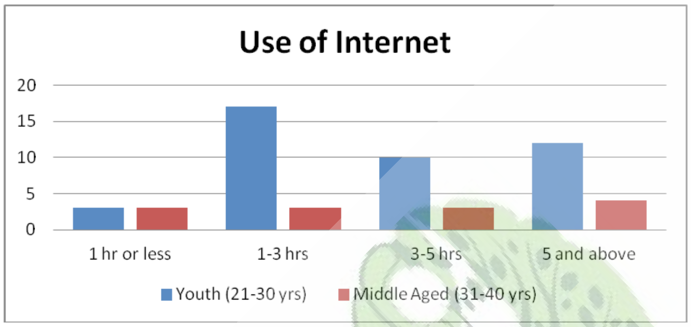

Figure 2. About Youth.

From the above table and figure, it is revealed that large number of youth i.e. 40% spend 1-3 hours on internet whereas; while 30% of middle aged people especially professionals spend 5 hours and above on internet use.

Table 3. Brand pages on social networking sites

Particulars	Youth (21-30yrs)	%age	Middle Aged (31-40yrs)	%age
Yes, Very often	19	45.23%	6	46.15%
Yes, Not Often	14	33.33%	1	7.69%
Not Really	6	14.28%	5	38.46%
Never	3	7.14%	1	7.69%

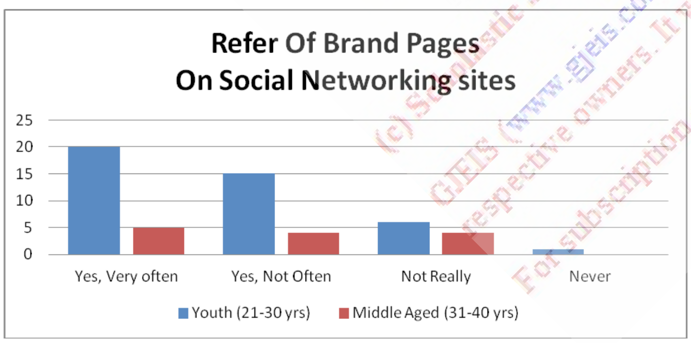

Figure 3. Refer of Brand Pages on Social Networking sites.

From the above table and figure, it is revealed that majority i.e. 45% of Youth and 46% of Middle Aged people very often refer brand pages on social networking sites like Twitter, Facebook etc.

Table 4. Youth are influenced by Brands

Particulars	Youth (21-30yrs)	%age	Middle Aged (31-40yrs)	%age
Yes, Very often	16	38.09%	3	23.07%
Yes, Not Often	13	30.95%	5	38.46%
Not Really	10	23.80%	3	23.07%
Never	3	7.14%	2	15.38%

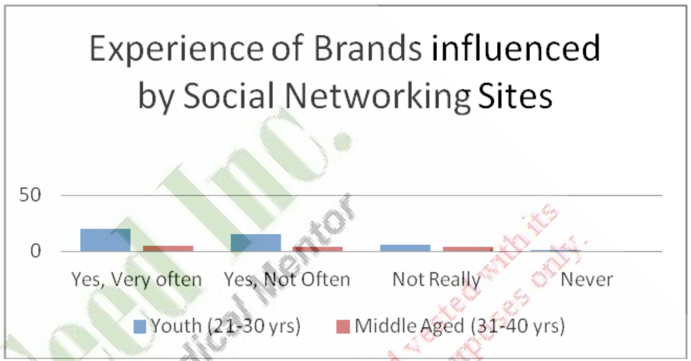

Figure 4. Experience of Brands influenced by Social Networking Sites.

From the above table and figure, it is revealed that 38.9% of Youth are influenced by Brands through social networking sites while 38.46% of Middle Aged People are not often influenced by social networking sites.

Table 5. Percentage of Youth and Middle Aged

Particulars	Youth (21-30yrs)	%age	Middle Aged (31-40yrs)	%age
Yes, Very often	20	47.62%	5	38.46%
Yes, Not Often	15	35.71%	4	30.76%
Not Really	6	14.29%	4	30.46%
Never	1	2.38%	0	0%

Table 6. Method of approach

Particulars	Youth (21-30 yrs)	%age	Middle Aged (31-40yrs)	%age
Its Animation	9	20.45%	7	31.82%
Method Of Approach	11	25.00%	5	22.73%
Promotional Gifts & discounts	12	27.27%	4	18.18%

Innovative Strategy	12	27.27%	6	27.27%

(12 questionnaires are rejected)

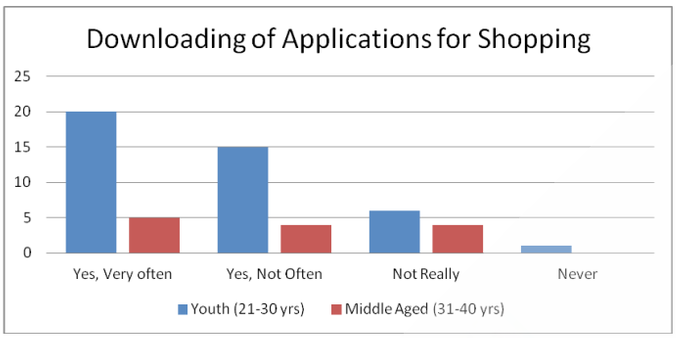

Figure 5. Downloading of Applications for Shopping.

From the above table and figure, it is revealed that both Youth and Middle Aged People i.e.47.52% & 38.46 per cent respectively love to download applications for shopping.

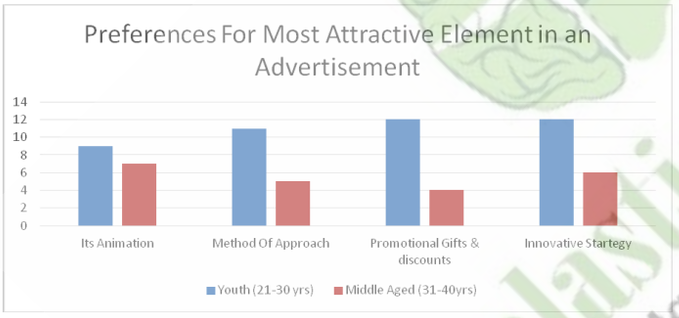

Figure 6. Preferences for Most Attractive Element in an Advertisement.

From the above table and figure, it is revealed 27.27% Youth gets attracted towards the innovative strategy and promotional gifts and discounts offered in an advertisement. Whereas; Middle aged people 31.82% gets attracted towards animation and 27.27% attracted innovative strategy of the advertisement.

In response to the questions about merits and demerits from the respondents, the analysis of the same is as under:-

1. Maximum people gave **Merits** of Digital Branding as:
   a. It is cost effective.
   b. It can reach the Masses.
   c. Time saving process.

2. Maximum people gave **demerits** of Digital Branding as:
   a. Not everyone can excess the computer.
   b. Need experience.
   c. It is expensive.

10 Findings

In view of the above study, the findings are that large number of youth access internet up to 3 hours a day while working people use internet for 5 hours and above in India as per the responses received. Secondly, it is also found that majority of youth and middle aged people very often refer brand pages through social networking sites. Thirdly it is found that youth are moderately influenced by the brand pages on social networking sites. The responses received also indicate that youth and middle aged people love to download applications for purchasing. Youth are also attracted towards innovative strategy and promotional gifts while middle aged are more attracted towards animation of advertisement followed by innovative strategy of the company.

The questions were asked from the respondents and maximum people conveyed that Merits of Digital Branding is cost effective. With the help of advance technology including ICT digital branding can reach to the masses. It is also a time saving process. On the other hand respondents have given important demerits of digital branding that everyone cannot excess the computers. Secondly, digital branding needs some experience to use it and at times it is very expensive at new places, where new to invest in man, machines and material.

11. Future Scope

Digital Branding is booming in Indian industry today and is going to have strong impact in the world of advertising and marketing due to its effectiveness and cost cutting measures. The digital marketing industry is worth $68 billion and according to one survey digital branding through mobile phones and tables has increased by 200 per cent. Digital branding surprisingly has boomed high with 40% growth rate while other industries are struggling with 5-10% only. Its importance is visible as Government of India has initiated two mega schemes i.e. Digital India and Make in India. The future is alarmingly bright as the use of mobile and internet is increasing day-by day in India. Thus, this study will certainly provide latest data on the Digital Branding and its impact on psychology of Youth and Middle aged people in Delhi NCR and help Research Scholars, Academicians, Professionals and industry experts on the subject.

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<u>Appendix-1</u>

<u>Questionnaire</u>

Dear Respondents,

This is part of an academic research project and assures you that it will not be used for commercial purpose. You are requested to kindly give your opinion/response for the following questions pertaining to **"Digital Branding and its impact on psychology of Youth and Middle aged people in Delhi NCR".**

Thank you
(Please Tick the appropriate option)

Q.1 How often you use internet on daily basis:
a) 1 hr or less b) 1 to 3 hrs. c) 3 to 5 hrs. d) 5 and Above

Q.2 Do you refer Brand Pages on social networking sites like Twitter, Facebook etc
a) Yes, Very Often b) Not often c) Not Really d) Never

Q.3. Do you like experiencing new brands influenced by networking sites?
a) Yes, Very Often b) Not Often c) Not Really d) Never

Q.4 Do you download Apps for shopping?
a) Yes, Very Often b) Not Often c) Not Really d) Never

Q.5 What do you find most attractive in an advertisement give your preferences by numbering the following:
a) Its Animation
b) Method of approach
c) Promotional Gifts & Discounts
d) Innovative strategy ---------------------------------

Q.6 Please write two merits of Digital Branding.
1)
2)

Q.7 Also write two demits of digital branding according to you.
1)
2)

<u>PERSONAL DETAILS</u>

♦ Age:
21-30 Years 31-40 Years
41-50 Years 51-60 Years

♦ Gender :
Male Female

♦ Marital status:
Married Unmarried
Separated/Divorcee Widowed/Widower

♦ Educational Qualification:
10+2 Graduation
Post-Graduation Professional Qualification
Not formally educated Any Other __________

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Modelling of the Factors Influencing the Implementation of Advance Manufacturing Technologies in MSME

Nisha Bhatt*

Assistant Professor, Department of Mechanical Engineering, Dronacharya Group of Institutions,Greater Noida - 201308, Uttar Pradesh, India; bhattnisha09@gmail.com

Abstract

Indian MSMEs constitute ninety percent of total number of industrial enterprises and thus fostering the employability in India. The major advantage of this sector is it's contribution in industrial production and export. However in spite of their positive outlook towards industrial growth, these enterprises are facing technological obsolescence. The imminent need of these enterprises is technological innovations to make them competitive and survive in the global market. The solution for technological innovation aspects is use of latest automated manufacturing technologies that efficiently utilizes the resources and hence the entire chain of production. The decision of opting Advance Manufacturing Technologies (AMTs) in enterprises with limited capital resources is rather difficult as it is the question of not only the nation's economy but employability expectations of people. The objective of this paper is to assist the mangers on a systematic framework that will answer how to perform the decision making process of adopting the AMTs in their enterprises. The key factors that one should considers while making this crucial decision are: Strategic aspects, organization structure, hands on training, implementation practices etc. A total 14 factors are considered in this study and these are modelled based on their level of priorities using Total Interpretive Structural Modelling (TISM). The model derived in this research will be helpful for manufacturing practitioners for making decisions on adopting AMTs.

Keywords: Advance Manufacturing Technologies (AMTs), Critical Factors, Micro, Small and Medium Enterprises (MSMEs), TISM (Total Interpretive Structural Modeling)

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1. Introduction

Micro Small and Medium Enterprises are the kernel of any economy and these have been worldwide accepted as the engine of economic growth and equitable development. These enterprises are the backbone of industrialization in developing countries like India. These enterprises under the manufacturing categories are classified on the level of investments in plant and machinery. According to Government of India the manufacturing enterprises are micro, if the investment is less than 25 Lakhs, for small it should be more than 25 Lakhs but less than 5 crores, and medium will have investments in plant and machinery not more than 10 Crores. Within the last decades the level of flexibility and efficiency has escalated the uncertainty in customer preferences through cost reductions and cosmic competitive environment. With the globalization and free Trade agreement, MSMEs are pressurized to adopt Advance Manufacturing Technologies (AMTs) to thrive in the global market. Advance manufacturing systems have emanated as an important area of research in Indian context. The requirement of these systems in MSME has increased due to lower quality and productivity of the products. Since the budget is limited for MSMEs, the decision to adopt AMTs is pivotal for top management of these enterprises (Pratihar & Swain, 2013)[28].

Automated Manufacturing Technologies are defined as computer controlled equipment integrated with micro -electronics circuitry for designing, handing and manufacturing of products (Thomas & Barton, 2012)42. Raymond and Croteau (2006)29 have broadly classified AMTs into: 1. Product Design Technologies 2. Process Technologies and 3. Logistics Applications. However, Uwizeyemungu (2015)45, further categorized these Logistics Application AMTs into AMTs for integration and AMTs for Logistics and monitoring. A wide range of AMTs available for industry are: Computer Aided Design, Computer Aided Manufacturing, Flexible Manufacturing Systems, Programmable Logic Controller, Computer Numerically Controlled machines, bar codes, computer based inventory management, quality control system etc.

*Author for correspondence

MSMEs face technological and expertise related challenges that hinder the implementation procedure of AMTs. A firm needs to make a targeted model that must meet the requirements of external market (Cardoso, Pinheiro de Lima, &Gouvea da Costa, 2012)4. However, implementation of AMTs should justify their utilization because these enterprises have limited resources in terms of capital and expertise (Mechling et.al,1995)24. It is also observed that the decision on adoption of AMTs doesn't always prove beneficial for an enterprise with limited capital resources (Koc&Bozdag, 2009)17. Thus the top management always feels a pressure while making such decisions. A decision on whether to opt AMT or not depends on core factors that need to be considered by the expert committee. These factors should also be prioritized while making the decision.

A sound decision making process involves evaluation of tangible factors that play a vital role in the effective utilization of AMTs in an organization (Singh &Khamba, 2011)14. In this paper through the detailed literature survey, the authors have identified fourteen factors that need to be addressed while making an important decision: ''whether to implement AMT in MSMEs or not".

Many researches have been undertaken in the field of advance manufacturing technologies (Sethi et.al., 201033; Mora-Monge et.al.,20073). Many techniques have been employed like Financial evaluation techniques (Orr,2002)27, cone -ratio DEA (Talluri et.al., 2000)40, AHP (Yusuff et.al., 200147; Tansel&Yurdakul, 2013)41. After reviewing an extensive literature on adoption of AMTs , we have identified 14 factors that may influence the decision of implementing AMTs in MSMEs.

1. Strategic Issues (ST)

Strategic Issues deal with how the dynamic nature of market demands the evaluation of current process technology. The continuous changing market conditions force the management to simultaneously update their business and strategic objectives that cover both business and technology issues. These issues should be addressed before the adoption of AMTs and include operational strategies, technological strategies, long term goals and automation strategies , government policies and planning of human resource development (Efstathiades,et.al. 200211;Kreng et.al., 2011;Saberia&Yusuff, 2011).

2. Organizational Changes and External Consultants (OR)

The decision of adopting AMTs also considers the possibility of redesigning organizational structure and processes. It has been argued that a hierarchical structure of organization that involves multiple level of authority often proved to be obstacle to the effective implementation of AMTs. A fewer level of authority which streamlines an organization structure is necessary for adoptions of automated technologies (Saberia &Yusuff, 201132; Darbanhosseiniamirkhiz & Ismail, 20126).

It has been observed from previous studies that employee involvement positively relates to technology whereas organizational structure negatively relates to technology. The available literature truly supports that maximum administrative decentralization improves company performance and thus is in favor of advanced technologies.

3. Continuous Management and Manufacturing Support (CM)

The top management support is vital in every stage starting from pre -preparation to post adoption of advance technologies in manufacturing sector. Their commitment is required in each and every activity of production system. The successful implementation of these technologies seeks support from all departments of the organization (Singh et.al., 2007; Raymond,2005)30.

4. Human Factors (HF)

Human resource has a significant impact on strategic decisions and is an asset for any organization. It is the human resource department that provides a competitive advantage with respect to its rivals. The researchers have emphasized on management of people in distinctive way, their support in implementation of AMTs is highly desirable and it can be achieved via inherent motivation and job satisfaction. It is recommended that the organization seeking support for adoption of automated technologies should organize workshops that enhance knowledge, skills, responsibilities and attitude of workers. If an organization prepares workers for adoption of AMTs then the system benefits from these new technologies (Bidanda& Cleland, 19955; Bayo-Moriones&Cerio, 20042).

5. Vendor Selection (VS)

Another critical factor in AMT adoption is appropriate selection of vendors (Lefebvre, Lefebvre & Harvey, 1996; Spanos&Voudouris, 2009)37. Generally India is considered as an outsourcing capital that offers services like software development to engineering. So, within such a competitive environment, selection of right vendor becomes more crucial. This enforces an organization to form a vendor selection team, where the team evaluates a vendor based on following criteria:

1. Whether the vendor meets the technical and business requirements of the organization

Table 1. Interpretive Logic-Knowledge Base

S.NO	Element no	Y/N	In what way a change force may influence /enhance other change force. Provide reasons in brief.
Strategic Issues			
1	E1-E2	Y	New strategy enforces changes in organizational structure
2	E2-E1	N	
3	E1-E3	N	
4	E3-E1	Y	Top management makes a new strategy.
5	E1-E4	Y	Cooperation from workers/human factors depends on strategy planned.
6	E4-E1	N	
7	E1-E5	Y	Selection of vendors depends on planned strategy.
8	E5-E1	N	
9	E1-E6	Y	Depending upon strategy, implementation of AMTs will be done.
10	E6-E1	N	
11	E1-E7	Y	Depending upon the objectives of organization, Level of Hands on training to employees will be decided.
12	E7-E1	N	
13	E1-E8	N	
14	E8-E1	Y	Individual departments plan their strategy.
15	E1-E9	Y	Transitive
16	E9-E1	N	
17	E1-E10	Y	Transitive
18	E10-E1	N	
19	E1-E11	Y	Transitive
20	E11-E1	N	
21	E1-E12	Y	Transitive
22	E12-E1	N	
23	E1-E13	N	
24	E13-E1	Y	New strategies are developed based on existing market conditions.
25	E1-E14	N	
26	E14-E1	Y	Capital is required for planning
Organizational structure			
27	E2-E3	N	
28	E3-E2	Y	Top management enforces changes in organizational structure and external consultants
29	E2-E4	Y	Workers selection will be done for individual departments in an organization.
30	E4-E2	N	
31	E2-E5	N	
32	E5-E2	N	
33	E2-E6	Y	Different departments will have their unique implementation practice
34	E6-E2	N	
35	E2-E7	Y	External consultants suggest hands on training
36	E7-E2	N	
37	E2-E8	Y	Collaboration or integration of different departments depends on structure.

38	E8-E2	N	
39	E2-E9	Y	Transitive
40	E9-E2	N	
41	E2-E10	Y	Transitive
42	E10-E2	N	
43	E2-E11	Y	Transitive
44	E11-E2	N	
45	E2-E12	Y	Transitive
46	E12-E2	N	
47	E2-E13	N	
48	E13-E2	Y	External competition demands changes in the internal structure of organization
49	E2-E14	N	
50	E14-E2	N	
Continuous management and support			
51	E3-E4	Y	Top management decides incentives of workers
52	E4-E3	N	
53	E3-E5	Y	Vendor selection will be based on judgment of management
54	E5-E3	N	
55	E3-E6	Y	Transitive
56	E6-E3	N	
57	E3-E7	Y	Management decides the level of training provided to employees
58	E7-E3	N	
59	E3-E8	Y	Transitive
60	E8-E3	N	
61	E3-E9	Y	Transitive
62	E9-E3	N	
63	E3-E10	Y	Transitive
64	E10-E3	N	
65	E3-E11	Y	Transitive
66	E11-E3	N	
67	E3-E12	Y	Transitive
68	E12-E3	N	
6	E3-E13	Y	management support helps in striving in the global market
70	E13-E3	N	
71	E3-E14	N	
E72	E14-E3	N	
Human Factor			
73	E4-E5	N	
74	E5-E4	N	
75	E4-E6	Y	Cooperation of employees is needed to implement any practice
76	E6-E4	N	
77	E4-E7	Y	Enthusiasm of employees is needed to actively participate in training
78	E7-E4	N	
79	E4-E8	Y	Integration of department requires cooperation from teams.

80	E8-E4	N	
81	E4-E9	Y	Workers productivity influence the lead time
82	E9-E4	N	
82	E4-E10	Y	Workers productivity influence the delivery time
84	E10-E4	N	
85	E4-E11	Y	Increase in worker's productivity contributes in overall productivity of the system
86	E11-E4	N	
87	E4-E12	Y	Quality largely depends on programming skills of programmer
88	E12-E4	N	
89	E4-E13	N	
90	E13-E4	N	
91	E4-E14	N	
92	E14-E4	Y	Capital Incentives are the source of motivation for any industry
vendor development and selection			
92	E5-E6	Y	Implementation practices must be suggested by selected vendor
93	E6-E5	N	
94	E5-E7	N	
95	E7-E5	N	
96	E5-E8	Y	Departments select vendors as per their need and their integration will help in selecting suitable vendor that meets demand of all the departments.
97	E8-E5	N	
98	E5-E9	Y	Transitive
99	E9-E5	N	
100	E5-E10	Y	Transitive
101	E10-E5	N	
102	E5-E11	Y	Transitive
103	E11-E5	N	
104	E5-E12	Y	Largely depends on product/services provided by vendors
105	E12-E5	N	
106	E5-E13	N	
107	E13-E5	Y	Current conditions of the market drives the selection criteria of vendors
108	E5-E14	N	
109	E14-E5	Y	FR will be needed to invest in available technology
Implementation Practice			
110	E6-E7	N	
111	E7-E6	Y	Depending upon Hands on training, implementation practices will be utilized
112	E6-E8	N	
113	E8-E6	Y	Depending upon the decision of teams from different department, implementation practices will be proposed
114	E6-E9	Y	Better the IP, more will be reduction in LT
115	E9-E6	N	
116	E6-E10	Y	Transitive
117	E10-E6	N	
118	E6-E11	Y	Best IP are those that maximizes the utilization of the system
119	E11-E6	N	

120	E6-E12	Y	Better the IP, less will be the defects in the product
121	E12-E6	N	
122	E6-E13	N	
123	E13-E6	Y	Existing competition drives the IP
124	E6-E14	N	
125	E14-E6	Y	Organization must have FR to implement the best practices
Hands on Training			
126	E7-E8	Y	Depending on the level and type of hands on training, teams will be formed in a department
127	E8-E7	N	
128	E7-E9	Y	Transitive
129	E9-E7	N	
130	E7-E10	Y	Transitive
131	E10-E7	N	
132	E7-E11	Y	Transitive
133	E11-E7	N	
134	E7-E12	Y	Quality depends on machine and workers capability
135	E12-E7	N	
136	E7-E13	N	
137	E13-E7	Y	Depending upon the existing competition, level of training will be decided
138	E7-E14	N	
139	E14-E7	Y	Higher the FR better will be the HT
Integration of Departments			
140	E8-E9	Y	Transitive
141	E9-E8	N	
142	E8-E10	Y	Transitive
143	E10-E8	N	
144	E8-E11	Y	Transitive
145	E11-E8	N	
146	E8-E12	Y	Transitive
147	E12-E8	N	
148	E8-E13	N	
149	E13-E8	N	
150	E8-E14	N	
151	E14-E8	Y	Financial resources are required for any changes in departments
Reduction in Lead Time			
152	E9-E10	Y	Reduction in lead time will slightly reduce the delivery time
153	E10-E9	N	
154	E9-E11	Y	Reduction in LT will improve overall productivity of the system
155	E11-E9	N	
156	E9-E12	N	
157	E12-E9	N	
158	E9-E13	N	
159	E13-E9	Y	Competitive Environment demands reduction in Lead time

160	E9-E14	Y	
161	E14-E9	N	Transitive
Reduction in Delivery Time			
162	E10-E11	N	
163	E11-E10	N	
164	E10-E12	N	
165	E12-E10	N	
166	E10-E13	N	
167	E13-E10	Y	To survive in CE, products should reach to the customer on /before time.
168	E10-E14	N	
169	E14-E10	Y	Transitive
Productivity			
170	E11-E12	N	
171	E12-E11	N	
172	E11-E13	N	
173	E13-E11	Y	Transitive
174	E11-E14	N	
175	E14-E11	Y	Transitive
Quality			
176	E12-E13	N	
177	E13-E12	N	Best quality should be deliver to customers for survival in competitive environment
178	E12-E14	N	
179	E14-E12	Y	To get best quality of products, one needs to invest in advance technologies.
Competitive Environment			
180	E13-E14	N	
181	E14-E13	Y	Sound financial conditions influence survival in competitive environment.

Table 2. Reachability Matrix

		OR	CM	HF	VS	IP	HT	ITD	LT	DT	PD	QA	CE	FR
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
ST 1	1	1	0	1	1	1	1	0	1	1	1	1	0	0
OR 2	0	1	0	1	0	1	1	1	1	1	1	1	0	0
CM 3	1	1	1	1	1	1	1	1	1	1	1	1	1	0
HF 4	0	0	0	1	0	1	1	1	1	1	1	1	0	0
VS 5	0	0	0	0	1	1	0	1	1	1	1	1	0	0
IP 6	0	0	0	0	0	1	0	0	1	1	1	1	0	0
HT 7	0	0	0	0	0	1	1	1	1	1	1	1	0	0
ITD 8	0	0	0	0	0	1	0	1	1	1	1	1	0	0
LT9	0	0	0	0	0	0	0	0	1	1	1	0	0	0
DT 10	0	0	0	0	0	0	0	0	0	1	0	0	0	0
PD 11	0	0	0	0	0	0	0	0	0	0	1	0	0	0
QA 12	0	0	0	0	0	0	0	0	0	0	0	1	0	0
CE 13	1	1	0	0	1	1	1	0	1	1	1	0	1	0
FR	1	0	0	1	1	1	1	1	1	1	1	1	1	1

2. Vendor's background based on information provided in request for information (RFI) form.
3. Selection based on information provided in request for quotation (RFQ) form.

6. Implementation Practice (IP)

The successful implementation of AMTs lies in how well an organization has adopted the technology. It is not only the hardware and software, but the working practices, planning and control procedures, inter-functional relationships, skills deposition etc that make these technologies useful. Better implementation practices ultimately deliver good quality products in shorter time-span and affordable prices (Weill et.al.,199144; Dangayach& Deshmukh,20037).

7. Hands on Training (HT)

It is important to provide training to people if any new technology is being introduced in the organization. It is also advisable to organizations that during the planning stage of AMT implementation, around 25 to 40% of the total cost of automation project should be kept aside for education and training of workers. If there is any change in production activities, it has to start from shop floor workers and their trust and cooperation can only be gained by making them comfortable with the change. Thus effective hands on training can actually overcome their fear to new technology (Efstathiades, 2002; Singh & Kumar, 2013).

8. Integration of Departments

Every organization either large or small has some internal and external factors that influence the revenues (Spathis, 200638; Singh et.al. 2007). Integration of Departments enhances these internal factors. A successful implementation of technology largely depends on coordination among different departments of an organization because AMTs require a large number of information handled by different departments. The team work and cooperation will be of utmost importance for best results of technology.

9. Reduction in Lead Time

In MSMEs, it is not always a good decision to keep inventory, so the lead time becomes a competitive advantage for these enterprises. The lead time in any manufacturing unit is the function of queue time, batching of products and batching in time. The reduction in lead time ultimately increases the market share and brings customer satisfaction. Automation technologies not only lower the production time, they also reduce work in process inventory and thus bring down the manufacturing lead time. (Dyson et al., 19979; Marri et al., 2000)

10. Reduction in Delivery Time

AMTs are the integration of hardware with information technology, which strengthen not only the manufacturing processes but also the supply chain. With the help of integrated informa-

Table 3. Level portioned Iteration 1

Factors	Reachability Set	Antecedent Set	Intersection Set	Level
1 ST	1,2,4,5,6,7,9,10,11,12	1,3	1	
2 OR	2,4,6,7,8,9,10,11,12	1,2,3	2	
3 CM	1,2,3,4,5,6,7,8,9,10,11,12,13	3	3	
4 HF	4,6,7,8,9,10,11,12	2,3,4,14	4	
5 VS	5,6,8,9,10,11,12	3,5,14	5	
6 IP	6,9,10,11,12	1,2,3,4,5,6,7,8,14	6	
7 HT	6,7,8,9,10,11,12	2,3,4,7,14	7	
8 ITD	6,8,9,10,11,12	2,3,4,5,7,8,14	8	
9 LT	9,10,11	1,2,3,4,5,6,7,8,9,13,14	9	
10 DT	10	1,2,3,4,5,6,7,8,9,10,13,14	10	LEVEL 1
11 PD	11	1,2,3,4,5,6,7,8,9,11,13,14	11	
12 QA	12	1,2,3,4,5,6,7,8,12,14	12	
13 CE	1,2,5,6,7,9,10,11,13	3,13	13	
14 FR	1,4,5,6,7,8,9,10,11,12,13,14	14	14	

tion technology, an organization can meet the customer agreed deadlines. AMTs smoothen the supply chain by eliminating bottlenecks and thereby reduce inefficient or time consuming processes. The supply chain monitors the delivery of products to customers. By increasing the efficiency of supply chain, a huge reduction in delivery time is obtained. (Singh et.al., 2007; Alcaraz.et.al., 20121)

11. Productivity

Productivity is a function of input and output resources. The appropriate use of AMTs in manufacturing units improves the utilization of resources. The appropriate utilization of resources such as capital, raw material, machines, technology etc ultimately

Table 4. Level portioned Iteration 2

Factors	Reachability Set	Antecedent Set	Intersection Set	Level
1 ST	1,2,4,5,6,7,9	1,3	1	
2 OR	2,4,6,7,8,9	2,3	2	
3 CM	1,2,3,4,5,6,7,8,9,13	3	3	
4 HF	4,6,7,8,9	2,3,4,14	4	
5 VS	5,6,8,9	3,5,14	5	
6 IP	6,9	1,2,3,4,5,6,7,8,13,14	6	
7 HT	6,7,8,9	2,3,4,7,14	7	
8 ITD	6,8,9	2,3,4,5,7,8,14	8	
9 LT	9	1,2,3,4,5,6,7,8,9,13,14	9	LEVEL 2
13 CE	1,2,5,6,7,9,13	3,13	13	
14 FR	1,4,5,6,7,8,9,13,14	14	14	

Table 5. Level portioned Iteration 3

Factors	Reachability Set	Antecedent Set	Intersection Set	Level
1 ST	1,2,4,5,6,7,	1,3	1	
2 OR	2,4,6,7,8,	2,3	2	
3 CM	1,2,3,4,5,6,7,8,13	3	3	
4 HF	4,6,7,8	2,4,14	4	
5 VS	5,6,8	3,5,14	5	
6 IP	6	1,2,3,4,5,6,7,8,13,14	6	LEVEL 3
7 HT	6,7,8	2,3,4,7,14	7	
8 ITD	6,8	2,3,4,5,7,8,14	8	
13 CE	1,2,5,6,7,13	3,13	13	
14 FR	1,4,5,6,7,8,13,14	14	14	

Table 6. Level portioned Iteration 4

Factors	Reachability Set	Antecedent Set	Intersection Set	Level
1 ST	1,2,4,5,7,	1,3	1	
2 OR	2,4,7,8,	2,3	2	
3 CM	1,2,3,4,5,7,8,13	3	3	
4 HF	4,7,8	2,3,4,14	4	
5 VS	5,8	3,5,14	5	
7 HT	7,8	2,3,4,7,14	7	
8 ITD	8	2,3,4,5,7,8,14	8	LEVEL 4
13 CE	1,2,5,7,13	3,13	13	
14 FR	1,4,5,7,8,13,14	14	14	

increases the productivity of the unit. (Scheer, 199435; Mechling et al., 1995; Sohal, 1996)36

12. Quality

Automation technologies bring better quality products in the market by eliminating human error, improving accuracy and precision, strict tolerances and are best known for their error detection capabilities through automated inspection. If the company is launching good quality of products in the market, then ultimately the life cycle of the product will be high(Kreng et.al.2011; Marri et al., 2000)21

13. Competitive Environment

Competitive environment is a source of inducement to perform better in comparison to other competitors. Introduction of AMTs results in better flexibility and improved product design that ultimately increases the local market share (Efstathiades et al. 199910; Narula, 200426; Mosey, 2005)25. An organization can compete with its rivals only through its upgraded research and development department that often implements novel simpler technologies for modification of their products.

14. Financial Resources

Installation of AMTs seeks a huge investment in capital resources. High initial investments are required to install AMTs in manufacturing units (Singh et. al , 200734; Larsen & Lewis, 2006)20.

The remainder of this article is organized as follows: the next section will briefly cover the Total interpretive structural modeling (TISM) technique. The third section will cover the methodology of this paper. The last section concludes the entire article with directions for further research in the area.

Table 7. Level portioned Iteration 5

Factors	Reachability Set	Antecedent Set	Intersection Set	Level
1 ST	1,2,4,5,7,	1,3	1	
2 OR	2,4,7	1,2,3	2	
3 CM	1,2,3,4,5,7,13	3	3	
4 HF	4,7	1,2,3,4,14	4	
5 VS	5	1,3,5,14	5	LEVEL 5
7 HT	7	1,2,3,4,7,14	7	
13 CE	1,2,5,7,13	3,13	13	
14 FR	1,4,5,7,13,14	14	14	

Table 8. Level portioned Iteration 6

Factors	Reachability Set	Antecedent Set	Intersection Set	Level
1 ST	1,2,4	1,3	1	
2 OR	2,4	1,2,3	2	
3 CM	1,2,3,4,13	3	3	
4 HF	4	1,2,3,4,14	4	LEVEL 6
13 CE	1,2,13	3,13	13	
14 FR	1,4,13,14	14	14	

Table 9. Level portioned Iteration 7

Factors	Reachability Set	Antecedent Set	Intersection Set	Level
1 ST	1,2	1,3,13	1	
2 OR	2	1,2,3,13	2	LEVEL 7
3 CM	1,2,3,13	3	3	
13 CE	1,2,13	3,13	13	
14 FR	1,13,14	14	14	

15. TISM

In 1973, Interpretive Structural Modeling was proposed by Warfield. The contribution of Farris and Sage (1975)12 is immense in decision analysis and worth assessment of large scale systems. ISM helps in arranging a set of related variables into a systematic hierarchical model called structural model. ISM utilizes the expert's practical experience and knowledge to construct this multilevel model. The basis of ISM lies in the expert's opinion about the relationships between the decision variables. ISM has been implemented to analyze factors contributing to world class manufacturing (Haleem et.al., 2012)15. ISM has also been used to establish a systematic model that take into account the factors affecting the growth of electric vehicle market in India (Digalwar&Giridhar, 20158). ISM approach has been implemented in various fields: To analyze the barriers while implementing green supply chain management in auto components manufacturing industry in south India (Mathiyazhagan, 2013)23; for sustainable lean manufacturing in organization (Jadhav et.al., 2014)16, establishing model for implementing lean practices in automobile industry (kumar et.al., 2013]18. ISM can be used for any system that can be technical, social or medical. ISM helps in presenting a complex system into a concrete model which answers what and how in theory building, however it fails to answer causality of links and thus "why" in theory building.

An ISM model can be upgraded to TISM (Sushil, 2012)39 by answering why the relationships exist in between two elements and thus it interprets both the links and nodes. Several researchers have implemented this advanced version of ISM in various fields: strategy technology management in automobile industry (Kedia& Sushil, 2013)19, model for construction labor productivity (Sandbhor&Botre, 2014)31, factors affecting implementation of ERP in SMEs (Gandhi, 2015)13 and for predicting the performance of R&D cell (Sushantaet.al., 2013). The basic process of TISM is explained in step by step manner:

15.1 Identify and Define Elements

The first step is to identify and define elements whose relationships are to be modelled for a specific problem. This involves brain storming exercise among a panel of experts. The elements can be identified after going through a detailed review of the available literature.

15.2 Define Contextual Relationships

Like ISM, state the contextual relationships between the elements i.e State whether element E1 will influence or enhance E2.

15.3 Interpretation of Relationships

This step upgrades the ISM into TISM by answering how the element E1 will influence or enhance E2.

16. Interpretive logic of pair wise comparison

In ISM, Self Structural Interaction Matrix (SSIM) is developed by pair wise comparisons among the elements that provide the direction of relationships. The upgraded model of ISM i.e. TISM involves a different exercise for pair wise comparisons. In TISM, each i^{th} element is individually compared with all the ele-

Table 10. Level portioned Iteration 8

Factors	Reachability Set	Antecedent Set	Intersection Set	Level
1 ST	1	1,3,13,14	1	LEVEL 8
3 CM	1,3,13	3	3	
13 CE	1,13	3,13,14	13	
14 FR	1,13,14	14	14	

Table 11. Level portioned Iteration 9

Factors	Reachability Set	Antecedent Set	Intersection Set	Level
3 CM	3,13	3	3	
13 CE	13	3,13,14	13	LEVEL 9
14 FR	13,14	14	14	

Table 12. Level portioned Iteration 10

Factors	Reachability Set	Antecedent Set	Intersection Set	Level
3 CM	3	3	3	LEVEL 10
14 FR	14	14	14	

ments, starting from (i+1)th to nth element. For each link the entry in comparative table could be Y (Yes) or N (No) and for each yes, the brief reason is to be mentioned. The above paired wise comparison is called interpretive logic-knowledge base in TISM. This knowledge base is upgraded if transitivity is observed for a link and the entry in comparative table is then changed to transitive. If the reason for transitivity can be meaningfully explained then it is mentioned otherwise left blank.

15.4 Reachability Matrix

To form reachability matrix, if the entry in interpretive logic knowledge base is Y, or transitive, it is 1 in the reachability matrix. Otherwise, it is 0 for N entry in the knowledge base.

15.5 Level Partitions on Reachability Matrix

The level partitions in reachability matrix are carried out in same way as in ISM. The reachability set for an element is consisting of that element itself and the other elements that may help in achieving them. The antecedents and intersection sets were formed. The variables for which reachability and intersection sets are same is given the top level in TISM hierarchy which would not help achieve any other factor above their own level. After the identification of top level factor, it is removed from other performance factors and the iterative procedure continues till all the factors are associated with a level.

15.6 Developing Diagraph

The diagraph is obtained by linking the relationship among the elements as per the reachability matrix. A simpler version of diagraph is first obtained by eliminating the transitive relationships, which is then upgraded to diagraph, which may retain some transitive relationships which are crucial for interpretation.

16. Methodology

To derive a model using TISM, the enablers for advance manufacturing technologies in MSME were identified after an extensive review of available literature, which was then followed by expert's opinion. In this study, we have outlined 14 factors (Refer Table 1). These factors were identified from research available in reputed journals which are indexed in SSCI/SCI/Scopus. These factors were then reviewed by some senior members of companies currently using AMTs in their organizations. We have changed some factors as per the expert's opinion. In our study we have identified 84 small and medium level industries in Delhi –NCR region. Out of these, 73 were already using AMTs, while 11 were in a dilemma whether to opt it or not?

After the identification of enablers of AMTs, the contextual relationships were then discerned by domain experts. The discussion among experts lead to answering the question - in what way relationship exists among enablers of AMTs. Table 1 shows the Interpretive Logic-Knowledge Base formed during discussion phase.

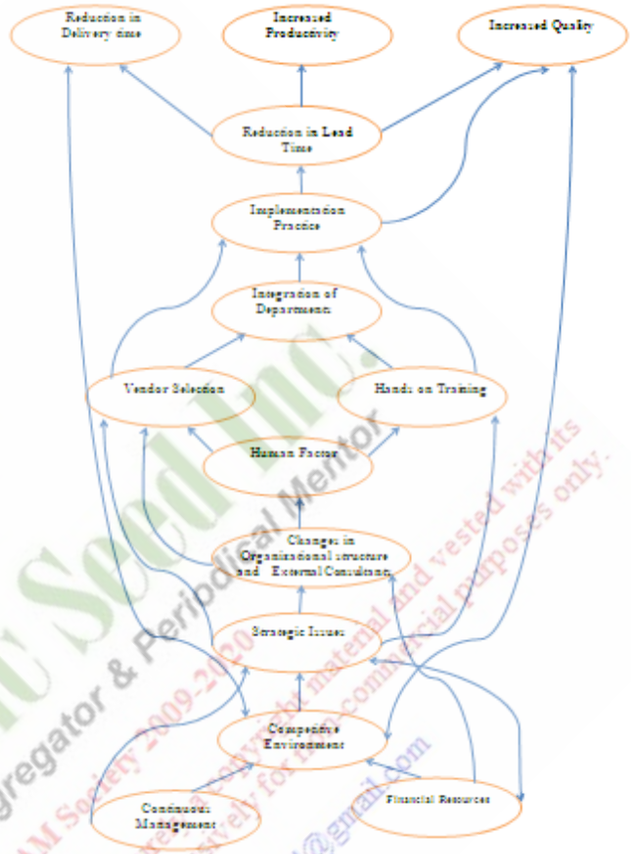

Figure 1. Diagraph of TISM model proposed.

Once the knowledge base was assembled, the reachability matrix was formed by marking 1 against Y and 0 against N entries in the knowledge base (see Table 2). From The reachability matrix, levels were partitioned during series of iterations (Refer Table 3-12]. The diagraph is then prepared based on the levels and the directive relationships among the enablers. Once the directive relationships were indicated, some meaningful transitive relationships were also added to make it a more precise and conceptualizing better articulated model.

17. Results and Conclusions

The main objective of this research is to create a practical model that will offers guidance to management and manufacturing practitioners of small and medium scale enterprises in Indian context. With this research, an attempt has made to identify the relevant enablers for adopting advance manufacturing technologies in MSME. Although a large amount of literature is available

in this regard, but none has established interactions among these enablers using TISM. A systematic framework has been presented in this paper that has recognized the contextual relationships among enablers of AMTs (Refer Figure 1).

The present study expounds that reduction in delivery time, increase in quality and productivity are at the top level of articulated model. This indicates these three enablers will not help in achieving other enablers above themselves and thus have an immense dependency on others. These three enablers are the foremost objectives the organization can achieve.

Another important finding of this study is the bottom two factors i.e. continuous management support and financial resources, having strong driving and less dependency over other factors. The top management needs to focus on these variables in order to embrace AMTs in MSME. The TISM model has enlightened the decision making process while adopting an advanced technology in an enterprise. Enablers like strategic issues and competitive environment enforces the management to achieve their targets.

The TISM model gives a clear picture on direct and indirect relationship among enablers e.g. Implementation practices" directly influencing "quality "and "reduction in Lead time". But "reduction in lead time" is indirectly influenced by "hands on training". Implementation practices are governed by hands on training and these practices have direct influence on reduction in lead time.

This model can be used by manufacturing practitioners in decision making and policy formulation process. The model equally benefits academicians for better understanding in this research domain. The TISM model in this paper can be further scaled up by adding more enablers in decision making process. Since a limited number of experts were approached for reviewing the reachability matrix hence it can be overcome by carrying out an extensive questionnaire survey and through illustrative case studies in the area. The authors believe that the knowledge base can be updated further to a great extent. The TISM model of this paper can lay out the foundation for a detailed theory building in the area of advance manufacturing technologies.

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Drivers of Green Purchase Intentions: Green Self-Efficacy and Perceived Consumer Effectiveness

Nitika Sharma[1]* and Rekha Dayal[2]

[1]Research Scholar, Department of Commerce, Delhi University, New Delhi - 110021, Delhi, India; nitikasharma28@gmail.com

[2]Associate Professor, Jesus and Mary College, Delhi University, New Delhi - 110021, Delhi, India ; rekhajmc22@gmail.com

Abstract

Purpose: This study aims to combine the literature of consumer behavior and green marketing into a new managerial framework of green motivation. In addition, the present study proposes an original framework to explore the influence of Green Self-Efficacy (GSE) on Green Buying Intentions (GPI) of consumers through the mediating role of Perceived Consumer Effectiveness (PCE). **Design/Methodology/Approach:** The current study summarizes the literature of four concepts namely green self-efficacy, perceived consumer effectiveness and green purchase intentions to develop a new framework to enhance green purchasing intentions. A questionnaire was administered to empirically verify the hypothesis and data collected from Indian consumers were analyzed using Structural Equation Model (SEM) and Hayes's Mediation Model. **Findings:** The study found the positive and significant effect of GSE on GPI through PCE. In addition, the relationship between GSE and GPI are partially mediated by PCE. The conclusions drawn in the study is useful for marketers to understand the factors that affect the purchasing intentions of the consumers and will help them improve the strategies in order to increase green sales. Indeed, green marketing is a distinct and distinguish way of positioning a product or company which can benefit the society with improved environmental conditions and healthy products. **Originality:** Although researchers have been studying the role of green motivation, particularly in the context of green purchasing behavior, it may safely asserted that the boarder dimension of GM, GSE and PCE have been remained under-researched. This study proposes an original framework to enhance GPI via GSE and PCE.

Keywords: Green Self-Efficacy, Green Purchase Intentions, Mediation Model, Perceived Consumer Effectiveness

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1. Introduction

In India, consumers are conscious about environment (Sharma & Sharma, 2013) and understanding the importance of sustainability with concern for environment. Green consumerism defines as the process of purchasing and non-purchasing decisions made by consumers, based on environmental and sustainable criteria (Moisander, 2007). The significance of green concept has been implicated by customers, investors, government & NGOs. As a result many sectors are making sustainable initiatives in their corporate goals, strategies, operations and supply chain practices to improve environmental sustainability. For the reason of environmental attention within society, many sectors are willing to expect the environmental responsibilities (Chen et al, 2006). Moreover, well informed consumers create sustainable environment through green purchases and intentions. For example, while purchasing a CFL bulb or buying jute bag over plastic bags shows "pro- environmental behavior". Pro-environmental behavior defines as conscious actions taken by an individual so as to minimize the negative impact of human activities on the environment or to improve the environment. It implies that consumers exhibiting high level of environmental consciousness leads intention to purchase green (Sharma & Sharma, 2013; Schlegelmilch & Bohlen, 1996). As per multi-dimensional and behaviour-oriented, environmental consciousness defined as different types of pro-environmental behaviors incorporates other factors or psychological constructs that are habitually associated to them: beliefs, values, attitudes, knowledge and others (Lafuente, 2010)

The concept of environmental consciousness refers to specific psychological factors related to individuals' propensity to engage in pro-environmental behaviors (Zelezny & Schultz 2000). Environmental consciousness stimulates the intention to purchase green products (Sharma & Sharma, 2013; Kim & Choi, 2005; Schlegelmilch et al, 1999). Moreover, environmental consciousness can be improved by environmental knowledge, environmental motivations, environmental attitude and environmental values (Sharma & Kesherwani, 2014; Chan 1999; Laroche et al 2001; Eilam & Trop , 2012; Straughan et al , 1999). Where,

*Author for correspondence

environmental motivation and environmental attitudes are important variables in predicting the green purchasing behavior. It has been found that consumer's self determination has a positive association with green purchasing behavior (Green-Demers, 1997). Similarly, self affects the selection and construction of an individual's environment (Bandura, 1986) and impact on his/her motivation (Bandura, 1993) and attitude (Amritage & Coner, 1999)[2] through self efficacy.

It has been found that PCE is one of the driving forces for pro environmental behaviour. PCE involves individual's conviction that a course of event can be occurred or stopped depending on his/her activity. Likewise to the concept of PCE, efficacy influences ones' thinking, motivation through cognitive, motivational, affective and selection processes to achieve a goal (Bandura, 1993 & 1992). It may be conjectured that self-efficacy stimulates green consumerism. Perceived Self – Efficacy is concerned with ones' judgment / knowledge of how well he/she can execute course of action to complete tasks and reach goals (Bandura, 1982). The literature suggests self-efficacy as a potential variable influencing green consumerism (Gilg et al , 2010; Kim & Choi, 2005). It implies that self-efficacy which relates to one own ability takes part in green consumption (Schwepker and Cornwell, 1991 ; Sparks and Shepherd, 1992).

The present study posits a new framework to investigate green purchasing intentions in compliance with three constructs namely green self-efficacy, green motivation and perceived consumer effectiveness by proposing six major hypotheses. Subsequently, the descriptive statistics, reliability of the measurement, factor analysis, correlation coefficients between the constructs, discriminant validity, convergent validity and the results are done using Structural Equation Modelling (SEM). The model is analysed using Hayes's (2008) Mediation Model. In the end, the present study draws the conclusions and mentions the discussions about the findings, implications, research limitations, and possible directions for future research.

2. Self Efficacy, PCE and Green Purchasing Intentions

Perceived Consumer Effectiveness defined as "the measurement of one's belief in the result of his/her own actions" (Kinnear et al 1974). It implies that individuals own judgement (Antil, 1978) and self-evaluation (Berger & Corbin, 2001)[3] about the environmental issues affect their behaviour towards the environment. It has been observed that PCE is about the customer's beliefs that his/her actions will contribute the solutions to the problems (Vermeir & Verbeke, 2006). Similarly to concept of PCE, Self Efficacy in social learning theory (Bandura, 1986) refers to the self-evaluation of course of action to complete tasks and reach goals.

In association with environmental studies Straughan & Roberts (1999) studied that PCE can positively influences the solutions to the environmental problems. Customers' beliefs play an important role in fighting environmental destruction (Sharma & Sharma, 2013) i.e. perceived consumer effectiveness is a driving force for ecologically conscious consumer behavior (Straughan & Robert, 1999). It implies that consumer's fundamental beliefs and values have an impact on environmental consciousness and

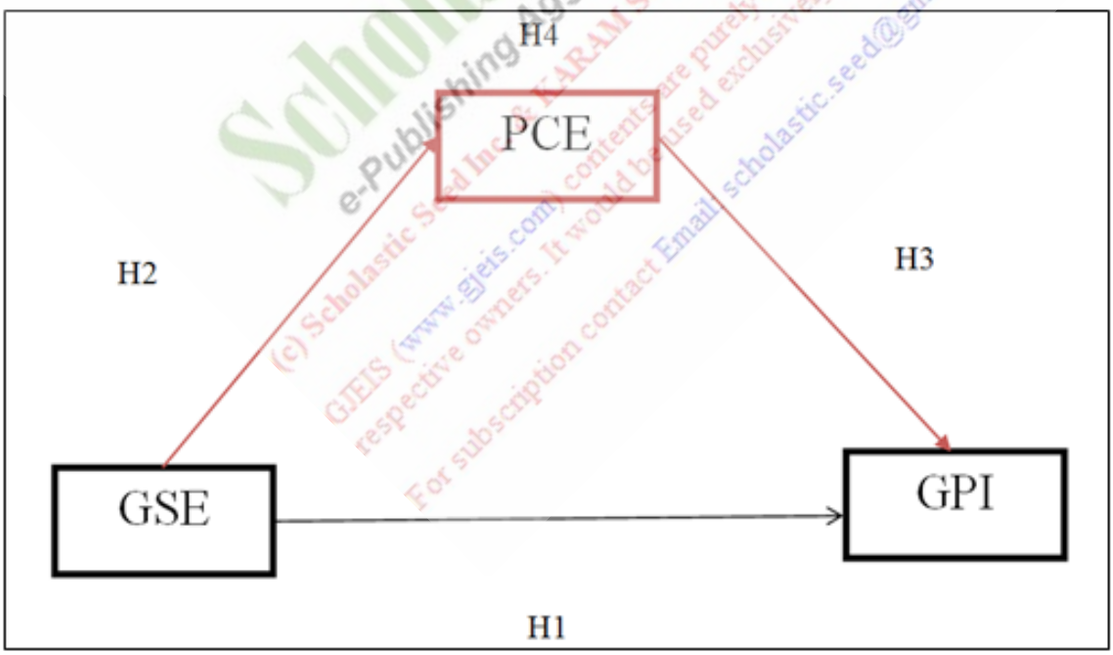

Figure 1. Research framework.

behavior (Schultz 2000). In case of self-efficacy beliefs may influence the green purchasing behavior. It may therefore conjecture that self-efficacious consumers show PCE which may influence the likelihood of showing green purchasing intentions.

Wu & Mweemba, 2010 demarcated environmental self-efficacy as the "beliefs concerning their capability to act in order to limit environmental degradation". It implies that understanding own capacity to organize and guide the environmental course of action intends to lead positive environmental behaviour. Indeed, Tabernero & Hernández, 2011 demonstrated that self-efficacy increases intrinsic motivation which further leads to pro environmental behaviour. It may therefore be conjectured that green self-efficacy has a positive association with PCE which helps in green purchasing intentions. Hence, following hypotheses have been posited in the study:

H1: Green self-efficacy positively related to green purchase intentions

H2: Green self-efficacy positively related to perceived consumer effectiveness

H3: Perceived consumer effectiveness positively related to green purchase intentions

H4: PCE has a mediation effect on GSE and GPI

3. Methodology

3.1 Data Collection and Survey Instrument

In this study we have developed the quantitative study to test the relationship among GSE, GPI and PCE. The questionnaire survey was applied to verify the hypotheses and research framework. The proposed model is shown in Figure 1. The questionnaires were mailed, floated on the internet through social media and data were collected personally also. The sample size 157 respondents were considered from Delhi and NCR. 39% of the respondents were in the age group of 18 – 27 years and 28% in 28-35 years. 29% in 36- 40 years and rest belong to age group between 41 – 46 years. Gender wise distribution of the sample showed that 48% were females and 52% were males. 35% respondents were graduates and rest were PG or above.

To study the impact of GSE on green purchasing intentions data were collected in respect of three variables: GPI, PCE and GSE. A questionnaire was administered for the purpose.

3.2 Data Analysis

The present study examines the direct and indirect effect among three variables namely Green self-efficacy (GSE), Perceived Consumer Effectiveness (PCE) and Green Purchasing Intentions (GPI).

The regression coefficients are superimposed in Figure 2 in statistical diagram of the model where a= 0.574, b= 0.577, c'= 0.270. In terms of regression equation I & II, the following express the estimated PCE (M), GSE (X) and GPI (Y),

In the present study the indirect effect is quantified as the relationship between GSE and Perceived Consumer Effectiveness (PCE) with coefficient (a). The relationship between Perceived Consumer Effectiveness (PCE) and Green Purchasing Intentions (GPI) is shown with coefficient (b). The coefficient (c') shows the intention to purchase green, influenced by GSE among consumer.

Table 1 shows summarized mediation model coefficients examining the outcome as green purchasing intentions (GPI) among customers having GSE. Present study also attempts

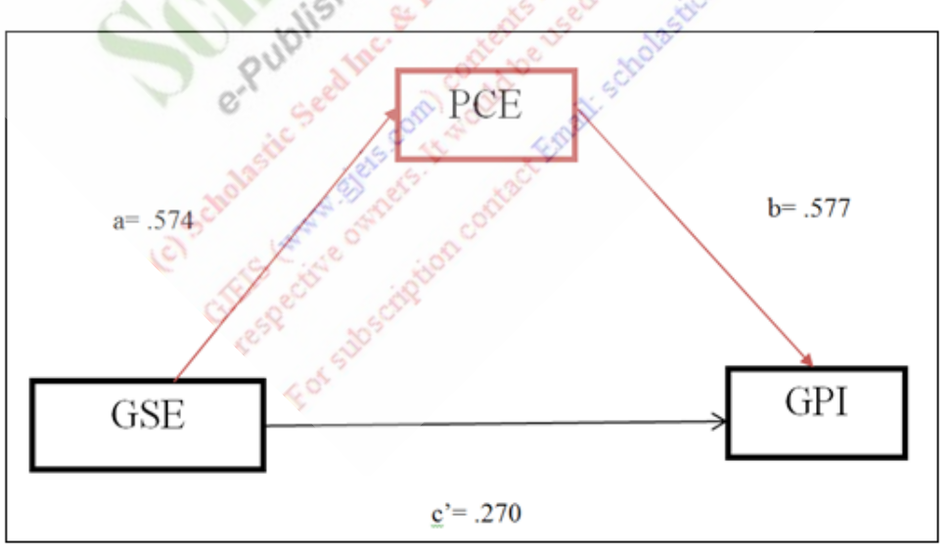

Figure 2. Statistical Diagram of Mediation model for GSE on GPI.

Table 1. Model Coefficients for the GSE Study

	Consequent					
	PCE (Model 1)			GPI (Model 2)		
Antecedent	Coeff.	SE	p	Coeff.	SE	p
GSE	0.5745	0.0444	0.000	0.270	0.075	0.000
PCE	-	-	-	0.577	0.059	0.000
Constant	2.371	0.2305	0.000	0.679	0.276	0.015
		R2 =	0.5239		R2 =	0.6899
	F (1,152) =	19.29	p=0.000	F (2,151) =	31.75	p=0.000

to explore the meditating impact of Perceived Consumer Effectiveness (PCE) on green purchasing intentions. In model 1 GSE is significant to PCE as P<0.05. It has been observed that self-efficacy comes from inner consciousness and beliefs of individual (Bandura, 1982). It implies that self-efficacy awakes the mind and reinterprets the purpose of self life and transforms it through positive way. Hence, in the present study we postulated that self-efficacious consumers may take positive action oriented towards the environment. This has been affirmed in our study that self-efficacy influences individual's beliefs towards providing a positive solution for environmental problem.

Model 2 shows that there is a significant relationship among PCE & GPI. It implies that consumer who believes that his/her actions will result positive solution towards environment, will show green approach in their purchase. Moreover, it has been observed that there is significant relationship between GSE and GPI. It infers that consumers' self-efficacy has a positive association with green purchasing intentions. The current study affirmed that consumers will be environmental efficacious while considering a product, self-motivation may drive consumers' green consumption decision. The self-evaluation aspect of consumers develops mindfulness among them (Bandura, 1986b) and this bring purposefulness towards society and environment. Substantial increase in R^2 of model 2 (0.6899) compare to R2 of model 1 (0.5239) shows, prima facie, greater relevance of model 2 relatively than model1. It implies: one, model 2 has a better model specification compare to model 1. Two, possibility of GPI is higher in presence of PCE. Three, PCE has mediation effect on GSE and GPI with coefficient 0.1533. In this paper it has been observed that effect of GPI among customers operates through GSE and it will be more effective in presence of PCE. The finding of Table 2 implies that GPI will be higher when consumers' beliefs will lead to their conscious action to minimize negative impact on environment if they are efficacious.

Table 2. Indirect effect of PCE on GSE and GPI

	Effect	Boot SE	BootLLCI	BootULCI
PCE	0.1553	0.057	0.0663	0.2926

As per Table 2 we can examine the indirect effect between the two coefficients namely GSE on Green Purchasing Behavior (GPI) through Perceived Consumer Effectiveness (PCE): ab i.e. 0.1599. It implies that mediation effect lies in the present study which states that GPI will be more powerful in presence of PCE. It may therefore be conjectured that consumers will show higher green purchase, environmental consciousness and rejection of products/ practices damaging the society in presence of PCE of consumers with self-efficacy instead of direct relationship between GSE and GPI. The finding of Table 2 implies that conviction of model 2 is higher with GSE leading PCE and simultaneously resulting into GPI among customers.

4. Conclusion

The past studies were not conclusive on the determination of green purchasing behaviour through GSE and how the role of self-efficacy has an effect on action orientation of consumers. Hence, this study provides an approach to design the process of green purchasing behavior through green self-efficacy. This study develops a research framework of PCE influencing GPI through consumer's efficacy. The empirical study shows that GSE is positively related to PCE. In addition, it has been observed that green purchasing intention is partially mediated by PCE. All proposed hypothesis in the present study are supported.

The present study shows the four perspectives of green purchasing intentions. First, this study combines the concepts of green marketing and GSE to develop a research framework of green purchasing intentions. Second, when consumers are asked to make choice between product attributes and product with greener attributes, they selected their desire to be green. Respondents reported that while making any purchase they consider the ethical issues and respect everyone including our ecosystem. Third, there is positive relationship between GSE and green purchasing behavior which is mediated by PCE. Fourth, this paper extends the research of consumer buying behavior by analyzing the impact of GSE in the field green marketing.

It has been observed that environmental consciousness among consumers is persuading by motivation and attitude of

efficacious consumers. We have studied the influence of self-efficaciousness of consumers through potential determinants namely environmental motivation and environmental attitude on green consumerism. It has been observed that self-efficacy influences the consumers' motivation and attitude which leads to green consumerism among green consumers. Self-efficacy defines consumer's ability to performance a task by motivating and constructing his/her attitude towards green purchasing intentions. It helps in consumer's decision making to purchase green products for sustainable environment. The past literatures have found that positive PCE among efficacious consumers stimulates the green consumption (Sharma & Sharma, 2013; Straughan& Roberts, 1999).

5. Limitation and Future Scope

This study concentrates only on the purchase experience of green products of consumers not specifying any particular product group. Future research can focus on the different and particular product group to compare the results of this study. Second, this study is based on sample size confined to Delhi and NCR. There is a need to examine the subject over a sample extending to other states of the country. Third, only few variables have been examined to study green purchasing intentions. There is a need to investigate other variables also apart from seeking revalidation of the finding of this study. Forth, factors and dynamics of perceived consumer effectiveness, self-efficacy and green purchasing behavior changes over period of time. Hence for future researchers should considerate longitudinal study.

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Who Lives if Earth Dies

Arun Bakshi*

Free Lancer and Academic Consultant, India
arbakshi@ud.edu.sa

Abstract

Change takes time to be first understood and accepted. Also, as we know necessity is the mother of invention thus the necessity to save our Mother Earth has started its role to draw the attention of us to invent some new ways to save it, if we and our coming generations have to survive with peace and happiness. Scientists and technologists are trying to invent new ways to save the natural resources available on the earth. The medical science is trying to invent medicines and methodologies to cure diseases, which are directly or indirectly emerged as a consequence of urbanization, modernization and industrialization. Being a teacher, generally I try to make my students understand that to find an optimal solution one must understand the problem in its entirety. Therefore if we give due consideration to understand and define the problem, it becomes easier to find and implement the best possible solutions. As an intelligent fool can make things more complex and difficulty to resolve, knowingly or unknowingly, we have also applied the same course of action to handle and deal with the century's one of the biggest threats and a challenge, Global Warming. To save mother earth, we should take some initiatives at grass root level. As we are already trying to find the cure for the problems caused by the global warming and other environment related issues, let us try to work on some preventive measures against futuristic environment related problems.

Keywords: Forest, Glaciers, Global Warming, Pollution

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1. Introduction

Global warming is a matter of concern for all of us whether it is melting of glaciers, tsunamis, earth quakes etc. is a warning for us to be sensitive for the mother earth. Here I am trying to highlight some initiatives, which I feel can play very important role to handle present environmental problems effectively.

Government make laws for citizens to full fill some criteria to get No Objection Certificates/Licenses etc. from the civil agencies and law enforcement agencies. For example the guidelines to design and build houses and to get pollution under control certificate etc. In the same manner we can make some laws to make people more concerned and responsible for the global warming related issues also by introducing a green parameter (requirement) to be fulfilled before getting such licenses or permissions. The aim to educate a child is to make him a responsible, insightful and well behaved human being. As a teacher my focus is on my students-tomorrow's citizens, teachers, bureaucrats, politicians, environmentalists, administrative officers' etc. and I find a major part of solution to such problems is related with growing minds of our children.

2. Rays of Hope

2.1 Best Utilization of Student's Power

General Proficiency (GP) subjects can be linked with environmental practices and not with environmental studies. Some universities are having subjects like general proficiency, which covers components like assignments, project work, presentations or some skills enhancement components, on the basis of which the students are awarded grades/marks. The syllabus of GP is also not uniform because of flexibility to select the evaluation components as mentioned above. I feel the academic proficiency is having other opportunities to make improvements. For example, in general UG and PG courses, for example, Bachelor of Computer Applications (BCA) and Master of Computer Applications (MCA) are having on an average 30 to 35 subject, covering theory and practical aspects of academic syllabus and GP is a separate subject apart from these 30 to 35 theory and practical subjects. This practice is applicable for many other UG/PG courses also.

Personally, I feel, it may not be a very good idea to again grill them in GP to work on academic projects only, which they are otherwise doing in their class room practices. Generally, GP being an open ended subject, no fixed syllabus is there for GP. Thus institutions and faculty members take GP class as per their own defined curriculum.

*Author for correspondence

We should design a syllabus with more emphasis on application part of learning through practical oriented approach to create awareness to take some remedial actions to stop irresponsible behavior towards Planet Earth. A better approach can be 90% practical and 10% theory.

This should be more of a recreational activity than an academic exercise. We can get many benefits from this exercise, like

a) The students will realize the meaning and need of Green Revolution OR Green Revolution-II
b) While performing Green activities, students will understand about the need and significance of Green Earth.
c) As practice makes us perfect, thus a practical which is recreational in nature and repetitive in nature will surly make the students emotionally, socially and ethically concerned with the problem and they will support the mission to Save Earth whole heartedly.
d) It can be a small beginning to make Earth a Green Plant.

Generally, the number of students in a class (per semester) is around 60 per batch per course. We can have clear idea about the total strength on the basis of batches running in an academic semester. If a student plants a tree and the health of the tree will ensure his/her marks in the GP. For the whole semester a student will take care of the tree and will collect all the knowledge to make sure the tree grows with time. Good health of tree means good marks. This will surely ignite a trigger among students to be good in parenting also. This exercise will also inculcate the parenting attitude among students. We can give awards to acknowledge their contribution for Green Revolution-II. As we encourage, academic performances, sports performances then why not environmental performances also which are very important in the present and future context. Some trophies, certificates, mementoes can also be given to best performers to promote healthy Green Spirit.

To promote such efforts the environmental and civic agencies can also be involved as to provide plants for free or at a very nominal price, which can be a price at par like the cost of a project file, cost of plastic cover, cost of printing etc.

Here the cycle will start in the reverse order. Instead of killing (cutting) trees for making above mentioned project material we have started to give birth to trees to breathe more fresh air and also to live a healthy life.

We know from past experiences, that the revolutions which were initiated by people have set historical examples to learn from them in future. A common man's association with a mission ensures the success by many folds and at a great speed.

2.2 Make Laws to Build Houses Approximately Eight Feet above the Ground

The area of earth which is covered by floor (concrete) of houses or covered by such kind of coverings becomes infertile i.e. cannot be used to grow plants etc. Say a house built in an area of 100 yards will make 100 yards of land infertile and will cause the removal of 100 yards of greenery otherwise. We can make a law to get house map passed by the municipal corporations only if the house is constructed 8 feet above the ground on concrete pillars only. The permission will be given to make plinth beams only on the base (ground). This will help to use about 90% of the soil/land for planting plants or ***bonsai plants*** (Japanese plants which are small in size) or medicinal plants good for environment. The municipal corporations or concerned public and private sector institutions can make guide lines to make use of such available area (90%) in support of Green Revolution-II.

Now a days people have already started making use of fertile lands to make residential and industrial apartments, which was used for growing crops etc. As laws are made to build the maximum number of floors in a building, similar approach can be implemented for the coverage of maximum ground area also.

Before it is too late we must take some preventive measures to make future constructions geo friendly.

To live we need green and not concrete jungles. In support of Green Revolution-II, Horticulture/ Agriculture department can also help to do some planning for the houses which are already built. They can suggest the better ways of plantation with respect to the surroundings and the available space of the house.

As especially during summer, the concerned Govt. agencies of some countries fix some guidelines to stop spreading of diseases like dengue, malaria like cleaning of water coolers etc. Against violations of such guidelines provision of fine and/or imprisonment are also there.

Why not to take Green Revolution-II under such regulations especially for the utilization of fertile land for the construction of residential and commercial buildings?

The Possible Policies/Measures to be considered for the already Constructed Houses/Buildings

a) Some time period should be given to the owners to implement new guidelines.
b) The admission of child in an educational institution should also be affected by the contribution of family towards the Green Revolution-II.
c) Parents have to implant at least one tree in the vicinity of their house with respect to the surroundings and the architecture of the house as an exercise as the part of the admission process of their child. If the surrounding and architecture of the house supports environment friendly big trees e.g. mango it is fine else other small trees can be the best option.

d) If plantation is not possible then near by parks or road sides which do not come under the extension plans of the civic agencies can also be a good choice.
e) The focus should be to plant environment friendly trees/plants especially to plant trees which contribute more for the oxygen generation.
f) The permission for the extension of houses can also be associated with Green Revolution-II.
g) For educational institutions like schools, colleges or universities the minimum number of trees must be fixed in the vicinity of the school as the guide lines are made for the infrastructural needs of such institutions.
h) The factories which are generating toxicants must also be covered under the Green Revolution-II, by making it compulsory to plant as well as to look after their growth until unless they become self-reliant.

2.3 Create First and then use

The people who are using wood/trees for business purpose like timber merchants have to balance the ratio of trees used in business and trees planted and grown. Some plan must be designed for the time period of ever five years. Big business house in the trading of timber should be taken under the plans for developing some areas like jungles in the coming 5 to 10 years to get renewal of their business licenses. Similar guide lines should be designed for the other related business houses also. As, in India, around 87 % students are studying in private institutions, making education sector a promising contributor for the Green Earth movement[1], if the renewal of affiliations for the courses of such institutions are also considered an integral part of the Green Earth movements .

2.4 Transport Industry

Transport industry is one of the biggest contributors in the global warming and environment related issues. This industry must be associated with the Green Revolution –II. Well-designed strategy is required for this industry also to minimize the negative impact of global warming and carbon emission. The size of business or number of vehicles under a unit of transporter will decide the kind of contribution and regulations to be designed for such units.

2.5 Vehicle Manufacturing and Other Companies Adding More to the Carbon Emission

As the melting of glaciers and ice of mountains is also effected by the carbon produced by the vehicle, such companies should be directed to plant and to look after the number of trees, required to nullify the effect to carbon produced by the vehicles manufactured by them.

2.6 Online Examinations

Generally in educational institutions two internal examinations are conducted in a semester (6 months).

To calculate the consumption of papers to conduct examination per semester let us we consider a formula $T_P = 2*(S_T*S_U*A)*N*B*M$

Where

T_P = Total consumption of papers in an academic semester
S_T = Average Number of students in a class
S_U = Average Number of subjects in a semester
A = Average number of answer sheets (single sheet double sided) used by a student per subject
N = Number of courses in an educational institute in an academic semester
B = Batches running in an educational institute in an academic semester
M = Total number of educational institutions in a geographical area

Infrastructure and maintenance cost of such huge heaps of papers is also a matter of concern.

Online examinations can save such a huge amount of papers, thus the negative impact of recycling processes on environment can also be minimized. This approach can play a significant role to minimize the percentage of toxicants in the environment.

2.7 Internal Evaluation Criteria can be Associated with Green Revolution-II

In educational institutions the students are given internal assessment. There are some parameters on the basis of which the students are assessed. One of the parameters can be fixed as Green parameter with some weightage say 25% of the total internal assessment. This parameter will evaluate students on the basis of his/her contribution towards Green Revolution-II. This small initiative can bring remarkable results to protect environment.

2.8 Renewal Fee Wave off for Countributing for Green Revolution – II

Departments issuing and renewing licenses for individual or corporate can design a policy to lure people to be associated with Green Revolution –II. For example, some rebate can be given for achieving the assigned or due to self-realized targets to contribute towards Green Revolution-II.

Table 1.

Global Vehicle (Private and Commercial) production in Yr. 2012(f) (Million Units) Approx.[2]	Global Co_2 Production (Billion Ton)[4]	Trees Required to Remove 11 Million Tons of Co2 OR 0.011 Billion Tons of Co2	Trees required to remove 44 Billon Ton of Co2	Total Trees On Earth (NASA Report 2005) [7]	Number of Trees Cut down Per Year [8][9]	Number of Trees Planted Per Year [10]
83.3 Million or 0.0833 Billion Units	44 Billion Ton	363.64 Billion Trees	1,454,560 Billion Trees	400 Billion	3 to 6 Billion	3,400,000,000 (Approx.)

3. Future and Supportive Analysis

Considering the worldwide automotive sector, production of private and commercial vehicles should reach 83.3 million units this year (2012), and close to 87 million units next year (2013)[Fig1]. The credit goes to emerging economies, first and foremost India and China.[2]

A study in Australian context, reveals that approximately one billion trees can capture more than 10 billion tonnes of carbon[5]. As per the Plant for the Planet Foundation, half million trees can sequester 5.6 million tons of carbon per year[6]. Approximately 3.5 billion grown trees will help to remove 33.9 billion tons of carbon dioxide globally generated in the year 2011 [Table 2].

The global Co_2 production is 44 Billion Tons (approx.)[Table 1] and the number of trees required for its elimination is approximately 132232.7 Billion. The plantation of such a large number of trees is a real challenge. To minimize the negative impact of such a large production of Co_2, the contribution from all segments of society like children, adults, working professionals, senior citizens will be required.

As the focus is to involve educational institutions in the green movement, referring to some of the universities in world all together shows 21,776,088 admissions[11].

This figure is significant, as the contribution of such a large number of students can play an important role to make environment more clean and green.

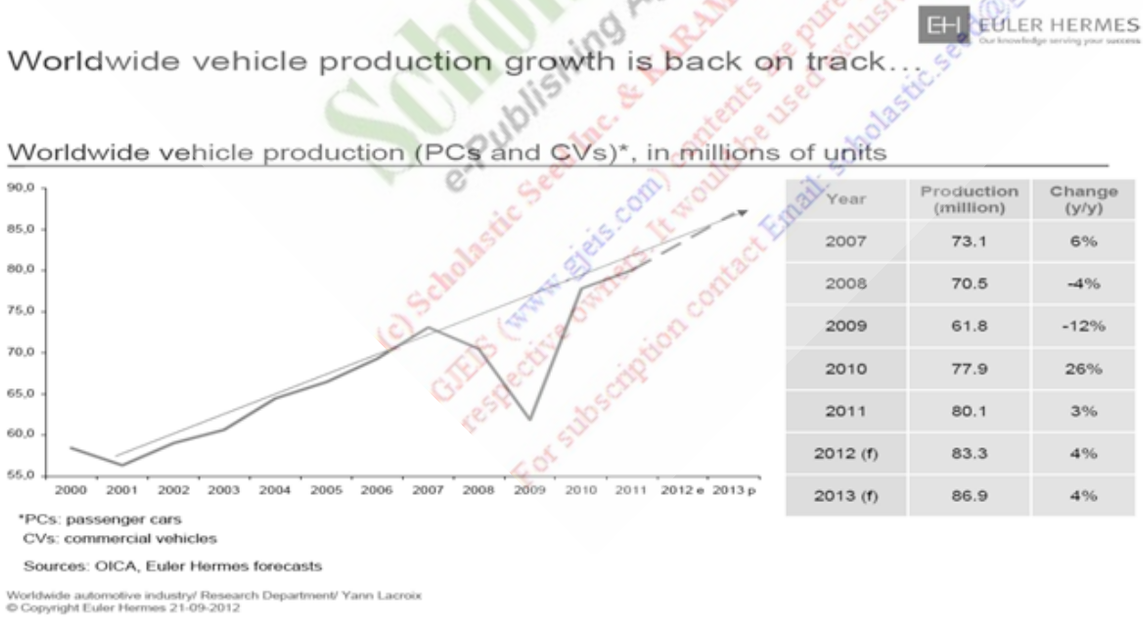
4. Issues and Challenges

a. Growth of plants with respect to time and surroundings

Plantation of trees is one aspect and corresponding growth of trees is another important issue to be taken care. Before a small seed/plant becomes a tree, it requires special attention and care for the initial period till it grows to the minimum level of self-reliance.

b) Possible Solutions besides issues and challenges

As the issue is related to nurturing, here the services of the volunteer nurturing experts can be taken. A win-win situation



Year	Production (million)	Change (y/y)
2007	73.1	6%
2008	70.5	-4%
2009	61.8	-12%
2010	77.9	26%
2011	80.1	3%
2012 (f)	83.3	4%
2013 (f)	86.9	4%

Figure 1. [2]Source: http://www.eulerhermes.com/mediacenter/news/-Automotive-industry-the-global-market-returns-to-cruising-speed-.aspx

Table 2. [4]Source: http://edgar.jrc.ec.europa.eu/CO2REPORT2012.pdf

Table A1.2

Trends in CO_2 emissions per region/country, 1990–2011 (unit: billion tonnes of CO_2)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
USA	4.99	4.96	5.04	5.18	5.26	5.26	5.44	5.58	5.65	5.69	5.87	5.75	5.83	5.87	5.94	5.94	5.84	5.91	5.74	5.33	5.53	5.42
EU27	4.32	4.27	4.12	4.04	4.02	4.08	4.15	4.06	4.07	4.01	4.06	4.13	4.11	4.22	4.23	4.19	4.21	4.15	4.09	3.79	3.91	3.79
EU15	3.33	3.36	3.29	3.22	3.23	3.27	3.34	3.28	3.32	3.29	3.33	3.39	3.39	3.47	3.47	3.43	3.43	3.37	3.32	3.07	3.16	3.02
- France	0.39	0.42	0.41	0.39	0.38	0.39	0.40	0.39	0.42	0.41	0.41	0.42	0.41	0.42	0.41	0.41	0.40	0.39	0.40	0.38	0.38	0.36
- Germany	1.02	0.99	0.94	0.93	0.92	0.92	0.94	0.91	0.90	0.87	0.87	0.89	0.87	0.88	0.88	0.85	0.86	0.84	0.86	0.80	0.84	0.81
- Italy	0.43	0.42	0.42	0.42	0.41	0.44	0.42	0.42	0.43	0.43	0.46	0.46	0.47	0.48	0.48	0.48	0.49	0.47	0.46	0.41	0.42	0.41
- Spain	0.23	0.24	0.25	0.23	0.24	0.25	0.24	0.26	0.27	0.29	0.31	0.31	0.33	0.33	0.35	0.36	0.35	0.37	0.33	0.30	0.29	0.30
- United Kingdom	0.59	0.60	0.58	0.56	0.56	0.56	0.57	0.55	0.55	0.54	0.55	0.56	0.55	0.56	0.55	0.55	0.56	0.54	0.53	0.49	0.50	0.47
- Netherlands	0.16	0.17	0.17	0.17	0.17	0.17	0.18	0.18	0.18	0.17	0.17	0.18	0.18	0.18	0.18	0.18	0.17	0.17	0.17	0.16	0.17	0.16
EU12 (new) MemberStates	1.00	0.91	0.83	0.81	0.79	0.81	0.80	0.78	0.75	0.71	0.73	0.73	0.72	0.75	0.76	0.76	0.78	0.78	0.77	0.72	0.75	0.76
- Poland	0.31	0.31	0.30	0.31	0.31	0.32	0.30	0.30	0.29	0.28	0.29	0.28	0.28	0.29	0.31	0.31	0.32	0.32	0.32	0.31	0.34	0.35
Japan	1.16	1.17	1.18	1.18	1.23	1.25	1.26	1.26	1.22	1.26	1.28	1.26	1.30	1.31	1.31	1.32	1.30	1.33	1.25	1.18	1.26	1.24
Other Annex II	0.83	0.83	0.85	0.85	0.87	0.89	0.92	0.96	0.99	1.01	1.03	1.03	1.05	1.08	1.10	1.12	1.11	1.15	1.14	1.10	1.07	1.11
- Australia	0.27	0.28	0.28	0.28	0.29	0.30	0.31	0.33	0.35	0.36	0.36	0.36	0.37	0.38	0.40	0.41	0.42	0.42	0.44	0.44	0.40	0.43
- Canada	0.45	0.44	0.45	0.45	0.47	0.48	0.49	0.51	0.52	0.53	0.55	0.54	0.55	0.57	0.57	0.57	0.55	0.59	0.57	0.53	0.54	0.56
Russian Federation	2.44	2.30	2.08	2.00	1.76	1.75	1.72	1.59	1.57	1.62	1.66	1.67	1.66	1.72	1.73	1.72	1.79	1.81	1.80	1.74	1.78	1.83
Other Annex I-EIT*	1.62	1.53	1.35	1.19	1.02	0.97	0.89	0.87	0.87	0.85	0.85	0.86	0.89	0.93	0.93	0.89	0.92	0.97	0.99	0.89	0.92	0.97
- Ukraine	0.77	0.71	0.63	0.55	0.45	0.45	0.39	0.38	0.36	0.36	0.35	0.35	0.35	0.38	0.36	0.34	0.33	0.35	0.34	0.28	0.30	0.32
China	2.51	2.65	2.78	3.02	3.19	3.52	3.62	3.59	3.65	3.57	3.56	3.64	3.90	4.50	5.28	5.85	6.51	7.01	7.79	8.27	8.90	9.70
- cement production in China	0.09	0.11	0.13	0.16	0.18	0.20	0.21	0.21	0.22	0.24	0.24	0.27	0.29	0.34	0.38	0.42	0.48	0.53	0.54	0.64	0.73	0.82
Other large DC***	1.83	1.91	1.99	2.03	2.15	2.24	2.35	2.46	2.53	2.60	2.69	2.72	2.81	2.91	3.09	3.26	3.37	3.56	3.54	3.79	3.93	4.10
- India	0.66	0.70	0.74	0.76	0.81	0.87	0.92	0.96	0.97	1.03	1.06	1.08	1.12	1.15	1.24	1.29	1.38	1.48	1.56	1.75	1.86	1.97
- Brazil	0.22	0.23	0.23	0.24	0.25	0.27	0.29	0.31	0.32	0.33	0.35	0.35	0.35	0.34	0.36	0.37	0.37	0.39	0.41	0.39	0.44	0.45
- Mexico	0.31	0.32	0.32	0.32	0.34	0.33	0.34	0.35	0.38	0.37	0.38	0.38	0.38	0.39	0.40	0.42	0.44	0.45	0.45	0.44	0.44	0.45
- Iran	0.21	0.23	0.24	0.24	0.27	0.28	0.29	0.30	0.31	0.32	0.34	0.35	0.37	0.40	0.43	0.45	0.48	0.51	0.37	0.38	0.40	0.41
- Saudi Arabia	0.17	0.17	0.19	0.20	0.21	0.21	0.23	0.23	0.24	0.25	0.26	0.27	0.28	0.30	0.31	0.32	0.34	0.36	0.38	0.40	0.43	0.46
- South Africa	0.27	0.26	0.27	0.27	0.27	0.29	0.30	0.31	0.32	0.30	0.31	0.29	0.31	0.34	0.36	0.36	0.36	0.37	0.37	0.35	0.36	0.36
Other non-Annex I ****	2.31	2.42	2.51	2.65	2.76	2.94	3.13	3.27	3.26	3.38	3.53	3.60	3.69	3.81	4.03	4.17	4.31	4.47	4.30	4.34	4.65	4.75
- Asian tigers**	0.71	0.79	0.84	0.92	0.99	1.07	1.17	1.24	1.17	1.25	1.31	1.36	1.41	1.46	1.53	1.57	1.61	1.65	1.68	1.68	1.81	1.84
- South Korea**	0.25	0.28	0.30	0.33	0.37	0.40	0.43	0.45	0.39	0.42	0.45	0.46	0.48	0.49	0.51	0.50	0.51	0.52	0.54	0.54	0.59	0.61
- Indonesia**	0.16	0.17	0.18	0.19	0.20	0.21	0.23	0.26	0.26	0.28	0.29	0.32	0.32	0.33	0.35	0.36	0.38	0.40	0.41	0.44	0.49	0.49
- Taiwan**	0.13	0.14	0.14	0.16	0.16	0.17	0.18	0.19	0.21	0.22	0.23	0.24	0.25	0.25	0.26	0.27	0.28	0.28	0.27	0.26	0.27	0.27
- Thailand**	0.09	0.10	0.11	0.13	0.14	0.16	0.18	0.18	0.17	0.17	0.17	0.18	0.19	0.20	0.22	0.23	0.23	0.22	0.23	0.22	0.23	0.23
International transport	0.66	0.66	0.69	0.68	0.69	0.72	0.73	0.76	0.77	0.82	0.83	0.80	0.84	0.85	0.93	0.95	1.00	1.05	1.04	1.01	1.04	1.04
Total	22.7	22.7	22.6	22.8	22.9	23.6	24.2	24.4	24.6	24.8	25.4	25.4	26.1	27.2	28.5	29.3	30.3	31.4	31.2	31.3	33.0	33.9

* *Including other countries of the former Soviet Union and Turkey.*
** *Asian tigers = Indonesia, Singapore, Malaysia, Thailand, South Korea and Taiwan.*
*** *Other large developing countries = Brazil, Mexico, South Africa, Saudi Arabia, India and Iran.*
**** *Remaining developing countries.*

can be designed where the capable senior citizens interested to contribute for the well fare of environment and society on local basis can become a great help. It will help them to be an important and valuable asset for the society and it will also help them to be in the main stream of life. Some policy to recognize such efforts can play an important role.

c) Areas for plantation of trees by corporate houses Corporate Houses will require massive area as per their manufacturing capacity to balance the ratio of plantation of trees and corresponding production capacity. The challenge is to arrange such huge areas. The solution can be the plantation in small areas as per the availability in the town or locality. The total plantation can be the total of such small areas or the total number of planted trees in such small areas.

d) Changing the attitude of people towards environment

It is not easy to change the mindset of people. Society takes time to adopt changes. Also, it is always good to take some initiatives for the benefit of society and environment. Rome cannot be built in a day. But small beginning and efforts are the stepping stones for the big changes.

5. Undisputable Facts and Evidences

Throughout history the Earth's climate has changed. Intergovernmental panel on climate change also states that the scientific evidence for warming of the climate system is unequivocal. There have been seven cycles of glacial advance and retreat in last 650,000 years [Table 3]. Around seven thousand years ago with the abrupt end of ice age the beginning of modern climate era and human civilization happened.

The present warming trend is proceeding at such an unprecedented rate as compared to the last 1300 years is of particulate significance being most of it is very likely as human-induced[12].

Technological advancements and Earth-orbiting satellite have helped scientists to study the big picture and to collect different types of information about our planet and its climate globally. The signals of changing climate are revealed by the studies of huge climate data collected through such advancements.

a) By the mid of 19th century the heat-trapping nature of CO_2 and other gases was demonstrated[12]. The scientific bases of

many instruments flown by National Aeronautics and Space Administration are based upon the ability of CO_2 other gases to affect the transfer of infrared energy through atmosphere. Undoubtedly global warming is also affected by the increased levels of greenhouse gases.

b) Changes in Earth's orbit, in the solar output and in greenhouse gas levels affect the Earth's climate as evident from the ice cores drawn from Greenland, Antarctica, and tropical mountain glaciers. Also in geological references the past large changes in climate have happened not in millions or even thousands but very quickly in tens of years[12].

c) Sea level rise: In the last century the rise of global sea level was about 17 centimeters (6.7 inches). However, the rate is nearly doubled in the last decade as that of the last century[12]. Also, the republic of Maldives is vulnerable to sea level rise.

d) Global temperature rise: As evident from the three major global surface temperature reconstructions the Earth has warmed since 1880[12]. Major warming happened since 1970s whereas the twenty warmest years occurred since 1981 with all ten of the warmest years occurring in the last 12 years[12]. Although 2000s observed a solar output decline which resulted in an unusually deep solar minimum in 2007-2009, but surface temperatures continues to go up[12].

e) Warming oceans: The much of the increased heat is absorbed by the oceans, with the top 700 meters of ocean showing warming of 0.302 degrees Fahrenheit since 1969[12].

f) Shrinking ice sheets: The Greenland and Antarctic ice sheets have decreased in mass. The mass of Antarctic and Greenland ice sheets have decreased. As per the data from National Aeronautics and Space Administration's Gravity Recovery and Climate Experiment show Greenland lost 150 to 250 cubic kilometers (36 to 60 cubic miles) of ice per year between years 2002 and 2006. Also Antarctica lost about 152 cubic kilometers (36 cubic miles) of ice between years 2002 and 2005.

g) Declining Arctic sea ice: Over the last several decades, Arctic sea ice has declined rapidly in extent and thickness[12].

h) Glacial retreat: Around the world almost everywhere including Himalayas, Alps, Rockies, Alaska, Africa and Andes glacial retreat is happening[12].

i) Extreme events: Since 1950, in United States, the record high temperature events have been increasing, while the record low temperature events have been decreasing. Increased numbers of intense rainfall events have also been witnessed in United States[12].

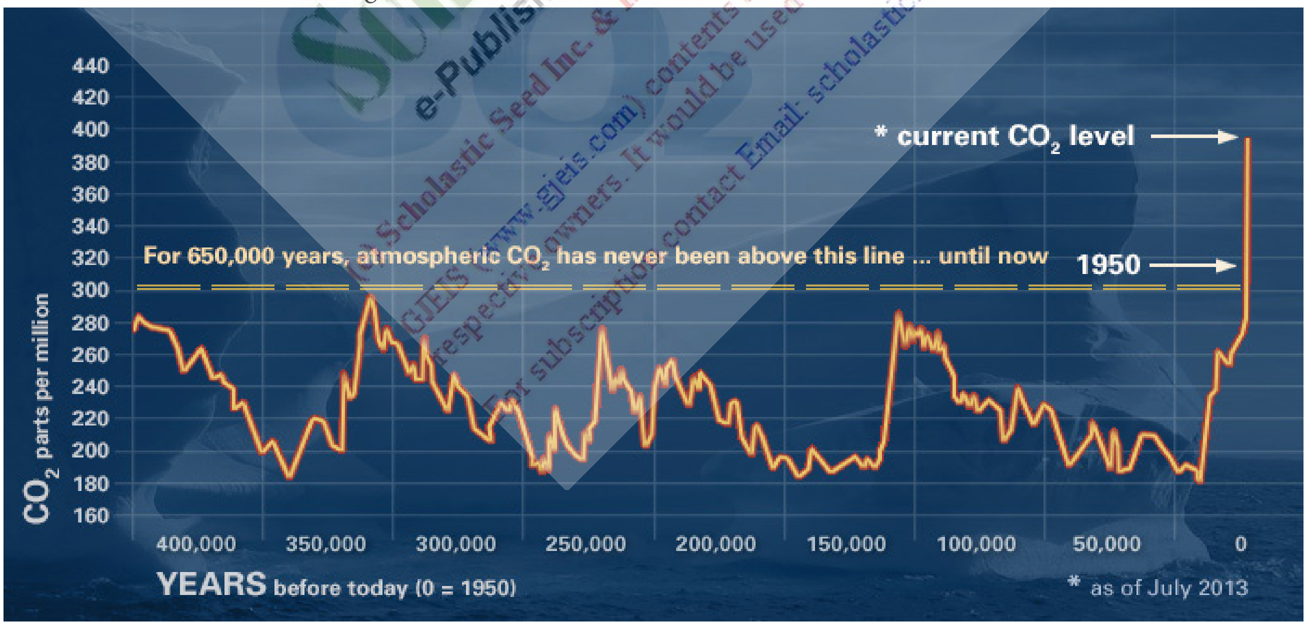
j) Ocean acidification: Because of the increase in the emission of CO_2 in the atmosphere by humans, about 30% increase in the acidity of surface ocean water has been observed since the beginning of the Industrial Revolution[12]. Also, the upper layers of the oceans is absorbing CO_2 at the increasing rate of two billion tons per year[12].

6. General Solutions

The area required for the plantation of trees by business houses is a matter of concern. One of the options can be the coastal areas as they are the primary victims of natural calamities like tsunami etc. This will also help to reduce

the impact of tidal waves before it enters the main cities. Also the areas like **hills, forests, deserts, river banks can be taken**

Table 3. Source[12]: climate.nasa.gov/evidence



into considerations. Soil erosion and landslides prone areas can also be covered under Green Revolution –II.

7. Some Approaches

a) Media can play very important role to spread awareness for issues that are effecting environment adversely. More programs or advertisements should be designed to make positive impact on the mind of people to have concern for the earth and life on the earth.
b) Before the final degree/Convocation every passing student has to plant a tree.
c) The vehicles are adding more to the global warming/pollution. Thus to get a new license or to renew a license at least one tree has to be planted and for the next renewal the growth of that tree should be taken into consideration.
d) Passports should also be renewed / issued by one tree one passport taking in to consideration the house architecture.
e) Public parks can be taken in to consideration to implement such regulations to plant trees under the guidance of park authorities.
f) Promotions can be linked with Green Revolution-II. Promotion in jobs will be effective when a tree will be planted by the beneficiary.
g) Rebate in the income tax can be associated with Green Revolution-II. Some percentage of exemption can be given for planting a minimum number of trees.
h) Employment opportunities in public and private sectors can be linked with plantation of trees and promotion. Appraisal can also be considered for the successful growth of the tree.
i) In judiciary, some welfare schemes should be there for prisoners considering their contribution for Green Revolution-II.
j) People have to plant a tree and to look after it for the purchase of every vehicle to compensate for the pollution added by the vehicle.
k) The farm houses can be associated with Green Revolution-II by fixing number of trees as a must with respect to the size of the farm house, by the government agencies.
l) The students who have used all changes to reappear in exams can be associated with Green Revolution-II to get mercy chances.
m) Green Revolution-II will also have positive impact on White Revolution. Plantation of trees will provide more healthy and green food for animals also. This will help them to become more productive.

8. Benefits: Long and Short Term

n) It will help students to learn about parenting. This will help them to become more responsible and sensitive for life and society.
o) Parents (by the business related government regulations) and children (by the schools guidelines) will work together for the same cause. This will definitely make an encouraging movement to help Green Revolution-II. Further, the awareness from children to parents and vice versa will give them a common platform to work together thus make better parent child relationship. This will add to the social and personal growth of a family.
p) It is difficult to make a "Green Dream" a reality, until unless we all understand the necessity of a Green Earth and contribute wholeheartedly to protect the environment and Earth.

9. The Role of Environmentalists and Scientists

The scientists and professionals working in the field of ecology should do research to produce the kind of plants/trees which will help more to minimize the effect of pollutants in the environment and to help to minimize the global warming.

The tender minds of children are like blank memory pads, which are very sensitive for the surroundings and literature to teach them. Whatever they learn or feel t makes a long lasting impact in their mind.

If we get success to realize the need, importance and significance of their role to make eco-balance, half of the battle is already won. But, the methodology to make them emotionally, socially and personally concerned for Mother Earth must be practical oriented and not mere theoretical and bookish. To achieve this goal, we have to work and design teaching and learning models, with more emphasis on practical approach.

10. Conclusion

We are never late to do good things. The contribution at the individual level can play a pivotal role to deal with the issue of global warming. Government agencies at National and International level must give due consideration for the futuristic world, full of life and not full of fright. Before earth becomes living hell lets together dwell a habit to do a bit for ourselves, our children and for future generations.

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Maintenance Management System: A Profit Centre

Mohammad Danish[1] and Tauseef Zia Siddiqui[2]

[1]School of Mechanical, Aerospace and Civil Engineering, University of Manchester, United Kingdom ; danishanis10@hotmail.com

[2]Sustainability Specialist, SABIC, Jubail Industrial City, Saudi Arabia ; ziats@safco.sabic.com

Abstract

Too much "Maintenance" is a necessary evil. It is considered as a cost centre. It is therefore, the general tendency to avoid maintenance to reduce the cost. This was considered to be fine few years back when the cost of equipment was not so high and the competition in the market was not stiff, people could afford to maintain any production cost. In the present scenario, market competition is such that companies can only afford production at lowest cost. The cost of production equipment is going up with more sophistication. The increasing cost of production goes hand in hand with the increase in downtime cost. Therefore all attention is focused on the equipment availability and reliability and reaping profits out of maintenance is becoming a common trend. It is a positive paradigm shift in thinking that maintenance is should no longer be considered as a group of people undertaking repairs rather than it is a group of people who avoid the breakdown of equipment. Maintenance is now being converted to a "Profit Centre". Maintenance can generate profit by its own activities. Maintenance is nothing but service and it cannot be free of cost. Maintenance has to search for its customers & satisfaction of the customers should be the objective. In achieving that goal, support from management is a primary requirement. Management has to give due respect and position to maintenance in their main company strategy, assigning specific authority and responsibility at different levels so that all may be able to contribute to the 'line of sight'. Similarly, maintenance must be ready to accept the challenge of the day by defining their various activities which collectively will act to make the equipment/system more reliable, available and cost effective. Similarly, the people engaged in today's maintenance are required to be more knowledgeable, trained, and sensitive to failure and success. Success and failure of maintenance depends upon the measure of the availability and reliability of equipment and cost of maintenance. The main objective of this review paper is to describe a scientific approach to maintenance and clearly define maintenance.

Keywords: Approach of Maintenance, Equipment, Maintenance, Profit Centre, Reliability

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1. Introduction

Managers around the world are keen to have a new approach to maintenance. The development of a strategic framework that combines new developments into coherent patterns. The authors of this paper bring together the idea about maintenance in the past that was limited to repair of broken equipments. We bring together a new meaning of maintenance that is learned through practical experiences and analysis of failures. Before proceeding further, it is important to define the term maintenance in all of its true sense.

"MAINTENANCE" can be defined as a combination of technical and associated administrative actions intended to retain an item in, or restore it to, a state in which it can perform its required function with guidelines from International Standards like ISO 55000 or BS 3811 : 1994. It may cover all activities undertaken to keep equipment in a particular condition or to return it to such a condition. As per the model developed by Kelly (1992)[2], the main objectives of maintenance are-

i. To keep planned availability performance at the lowest cost and above all within the safety.

ii. To develop activities required to preserve the functioning of an equipment during its life.

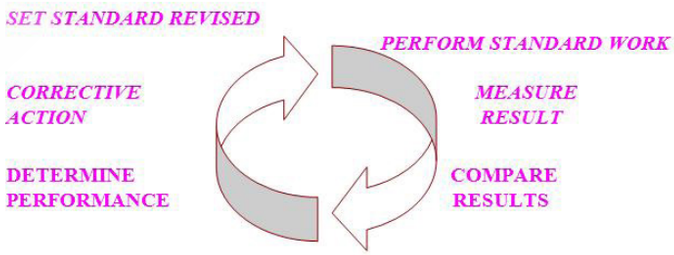


Figure 1. The Basic Maintenance Cycle (Moubray, 1997)[5].

*Author for correspondence

2. Prescription

To achieve the objective as stated above, we have to discuss the subject "Maintenance" in more details:

THE BASIC MAINTENANCE CYCLE

From the figure above, it is clear that maintenance cycle is a 'Continuous Improvement Cycle'. Every time, one assesses it's performance with one's own set standards and again performs with necessary corrective actions, thus, revising one's own standards.

It is therefore clear that Maintenance is not that simple as it is perceived by common people. Maintenance is a combination of many activities with specific nomenclature and objectives. Maintenance is divided in three major activities (Villemeur, 1992)[6]:-

3. Definitions

3.1 Corrective Maintenance

The general perception of corrective maintenance is as follows- Corrective Maintenance covers all maintenance which is carried out in order to correct (repair) a fault in equipment. While this definition per say isn't completely wrong, the industrial asset maintenance today require a broader view of corrective maintenance.

Corrective maintenance can also be divided in two parts.

3.1.1 Unplanned Corrective Maintenance

"The maintenance is carried out after equipment break down on urgent and emergent basis" (Moore et al., 2005)[4]

Such type of maintenance causes low utilization and high cost. Not only that **you are controlled by equipment**. (Certainly undesirable)

3.1.2 Planned Corrective Maintenance

"The maintenance is planned and prepared properly to minimum the loss of productive hours at low cost." (Moubray, 1997). Under these condition-situation remains As such, as maintenance personnel, **our effort should be to increase the percentage of "planned maintenance".**

3.2 Preventive Maintenance (PM)

As stated earlier, our efforts should be to increase planned maintenance. It is not an easy task where we organize our self properly. We have to anticipate the failures in advance so that correction is taken before it converts to a break down. It is called Preventive action and we come to a terminology **"Preventive Maintenance".** A formal definition of preventive maintenance as given by BS 3811:1984 is "The maintenance carried out at predetermined intervals or corresponding to prescribed criteria and intended to reduce the probability of failure or the performance degradation of an item".

Preventive Maintenance is always a part of planned maintenance, whilst corrective or emergency maintenance may or may not be (Williams, 1994)[7].

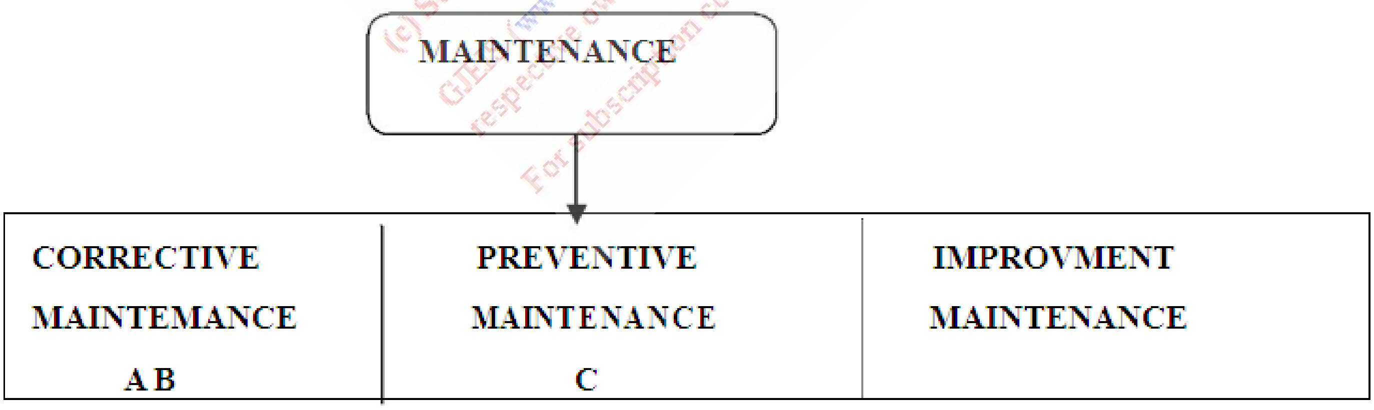
HOW?

To make the things more clearly we need to explain (PM) in further details:

Figure 2. Preventive Maintenance Structure (Williams, 1994).

3.2.1 Fixed Time Maintenance (Direct PM)

This type of maintenance is generally followed by people to avoid personal risk and investment on equipment required for Indirect PM. Cleaning, lubrication, fixed time part replacement are considered as Direct PM. Such maintenance is costly compared to Condition based maintenance.



3.2.2 Condition based Maintenance (Indirect PM)

Maintenance system based on indirect (PM) is called condition based maintenance (CBM). This system is developed to identify the fault in advance before equipment break down occurs. CBM enablers are the techniques which aid in providing accurate results from CBM strategies. Figure 3 below shows one such example.

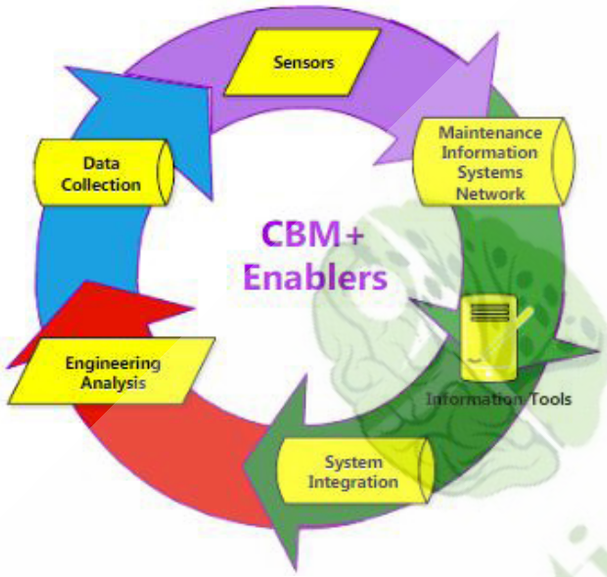


Figure 3. Example of CBM including sensors, algorithms, data collections, maintenance information systems etc (Gillespie, 2015)[1].

Such maintenance helps to increase planned maintenance thereby reliability of equipment at minimum cost. Indirect PM is of two types.

3.2.2.1 Subjective Indirect (PM)

In this system, we use human senses such as Visual, Feeling, Audio, Smell and Taste. For example, when we see black smoke being emitted from an engine, we definitely come to know that fuel is not burnt in the combustion chamber properly and this may be due to choked air cleaner, defective turbocharger, defective injector etc. So in this case, we have used the human visual sense for PM. Similarly, by touching equipment, an experienced operator can say whether the operating temperature of an equipment is normal or high.

3.2.2.2 Objective Indirect (PM)

This is a "condition monitoring" system by which we shall be able to find out the measured value of different systems of the equipment, the values so collected can be compared with the standard to establish the maintenance action required. Objective condition monitoring can be done by two methods.

(i) **"Off line condition monitoring"** is done by sensing instruments from a distance even without stopping equipment by operator or by maintenance personnel.

(ii) **"On line condition monitoring"** is done continuously by the instruments fitted on the equipment. In this case requirement of man power will be less. This is specially essential where failure development time is too short.

Some of the conditions monitoring tools are:

1.Vibration analysis
2. Shock pulse analysis
3.Resistance testing
4.Infra red scanning
5.Ultra sonic testing
6.Lubricating oil analysis
7.Temperature sensors etc.

The following example may be useful to understand subjective and objective condition monitoring.

From Figure 4 above, it is found that if we do the objective condition monitoring, we shall be able to notice the beginning of

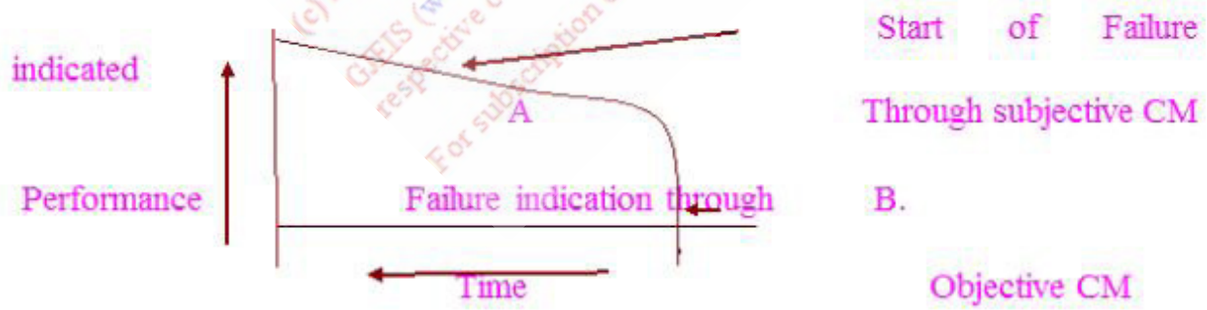


Figure 4. Subjective and Objective Condition Monitoring as understood from Wowk (1991)[8].

the failure at point "A" and point "B" in case of subjective condition monitoring, The difference is that in case of objective condition monitoring, we get the notice much earlier to prepare over self to attend the problem. But in case of subjective condition monitoring, we get less time to attend to the problem. Therefore we must adopt the objective condition monitoring over and above subjective condition monitoring. Even in the most industrialist country like Sweden, 70% of all condition monitoring are done subjective.

3.3 Improving Maintenance

Last but most important maintenance practice is "Improving Maintenance". When there is repetitive failures of a system, it is to be thoroughly studied whether there is any reason due to which it can be eliminated by minimum modification of the equipment and system? If yes, modification(s) should be carried out.
Improving maintenance can be identified in two parts (Mather, 2002)[3].

3.3.1 Design Out

Sometimes it is observed that due to bad design of an equipment, failure is repetitive and maintenance requirement is very high. In such case one should positively try to change the design and modify the system so that failure rate comes down drastically. That is why it is essential that the engineers must be associated from the very beginning rather from conceptual stage in the procurement process of a plant and machinery.

3.3.2 Life Time Extension

This is another essential task of an engineer to find out ways and means to extend life span of a component by modification, by changing material composition, by protective layers etc.

4. Conclusion

This review paper describes a scientific approach to maintenance engineering. Having established maintenance of an equipment as a self correcting and continuously improving cycle, the authors go on to discuss the different types of maintenance practices being used in the industry. Special attention has been given to condition-based maintenance classification under preventive maintenance and the authors go on to discuss what different condition monitoring tools are being used today. All in all, the authors have made an attempt to employ a strategic framework that extends the perception of maintenance of industrial equipments beyond simple break down maintenance or maintenance that is provided only during the occasion of a failure.

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Empirical Evidences of Value Creation from Banking Industry of India

Arvind Kumar Banger[1], S. K. Sharma[2]* and Rahul Chaudhary[3]

[1]Assistant Professor, Department of Management, Faculty of Social Sciences, Dayalbagh Educational Institute (Deemed-University), India; Arvind.banger@gmail.com

[2]Professor, Department of Management, Faculty of Social Sciences, Dayalbagh Educational Institute (Deemed-University), India; shivkumar_dei@yahoo.co.in

[3]Research Scholar, Department of Applied Business Economics, Faculty of Commerce, Dayalbagh Educational Institute (Deemed-University), India; Rahul_chaudhari73@yahoo.com

Abstract

In wake of recent economic reforms in India with an aim of stabilizing the economy of India under the era of globalisation, banking industry has experienced a canonical shift in terms of value creation practices, methods and metrics for measuring bank's performance. Value based management has long been hailed as the major objective of financial management of banks. A new trajectory of value based performance evaluation metrics have evolved and became an imperative of evaluating the performance of banks. The present study has been undertaken with the objective to measure the performance and value creation in the selected banks. The selected sample was taken from the public and private sector banks listed on stock exchange in India. In this study, Economic Value Added (EVA) and Market Value Added (MVA) across the selected banks were calculated based on the accounting figures and their difference was determined. The results showed significant difference between economic value added and market value added in selected banks is quite meaningful and significant.

Keywords: EVA, MVA and Value Creation Matrix

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1. Introduction

A series of dramatic changes has been observed across the financial sector, primarily due to the imperative impact of globalisation followed by advent of new technologies in the field of global communications. Subsequently, some changes were also observed over the past few decades across the firms involved in providing financial services to their customers at global level, which inturn has resulted a paradigm shift in the way of doing of business among the financial services sector.

In pursuit of realising the goal of wealth maximisation and value creation a financial firm needs to understand that how the money could be earned through its financial products, financial services and business processes. The generalised classification of financial service firms is primarily categorised into four different categories, based upon the manner in which they make money. The basic four categories of financial firms are Bank, Investment Bank, Non- Financial Services Firms Insurance Company. The fundamental source of earning money in case of banks is the spread between the interest it pays over the interest it earns from borrowers and also includes income from other financial service offered to their customers. Thus, it becomes important for finance manager to understand the relative impact of earnings upon value creation in a firm i.e. productive utilisation of assets, value creation practices and business processes, altogether construct the framework of value creation. The basic reason behind this argument is that a business needs to manage assets as we all liabilities in order to be able to generate profit.

The fundamental difference between valuation of financial firms and other firms is observed on account of two reasons, nature of business and regulatory requirements imposed upon their business methods, processes and practices. Which in turn leads to some specific challenges before a financial analyst to gauge the valuation of business. As in case of financial firms, it becomes difficult to define explicitly debt and reinvestments and also the Impact of regulatory requirement on value of firm.

As per the objective of wealth maximization, firms operate to create values to their shareholders. Financial position of the

*Author for correspondence

firm reveals some of the valuable output of the firm towards the shareholders. From the shareholder's point of view, some of the value creating measures are: Economic Value Added (EVA) and Market Value Added (MVA). This study is conducted in order to find out the relative value created by the banks operating in India.

It is believed that bank's management creates value, when it takes decisions that provide benefits, in excess of costs. These benefits may come to banks in the near or distant future depending on the strategies involved in decision making process. In order to remain competitive under the present arena of globalsation, a new argument of profitability has evolved in banking sector, which explicitly laid greater emphasis upon improving and strengthening the capital position of a bank in order to overcome the unexpected losses through an increase in investment of retained earnings. Furthermore, value creation across all profit seeking originations is largely dependent on Return on Equity (RoE). In order to generate larger quantum of value creation, bank's investment strategy must focus upon enhancing the return on equity over its cost of equity over a period of time i.e. the fundamental principle of value creation suggests that return on equity should always be greater than the cost of equity.

Most recently, Performance Metrics have gained a new importance in the area of strategic financial decision making. The metrics of performance have a variety of users, which include all the stakeholders, whose interest largely survives on the continued wealth maximization by the bank. A proportional proposition is believed to exit between the Value Creation and Wealth Maximization i.e. larger would be the value creation and wealth maximization if greater balance is achieved between conflicting interest stakeholders and frims. This means maximization of the bank value without diluting the interest of stakeholders. Any one such metric that measures the value creation without being biased towards any of the stakeholders is generally considered as a true metric of performance. However, it is difficult, if not impossible, to develop such a metric. Most of the conventional performance measures emphasizes over the issue of the impact of net income of business upon its equity, total assets, net sales or similar financial inputs or outputs.

Thus in order to understand the relative impact of economic decision making upon the value of business, one needs to understand the concept and relevance of new metrics of performance evaluation to reveal the value created by the business over a performance period. Most commonly used, value based metrics of performance evaluation are; Economic Value Added (EVA) and Market Value Added (MVA).Large number of International banks have begun to use value based frameworks such as EVA and MVA to run their banking operations.

2. Review of the Literature

It becomes imperatively important for finance manager to understand the underlying process and methods of valuation creation in context of a business or the firm. The term "business" is more comprehensive than the assets deployed in it. The reason is that the valuation of business is to reckon all types of assets (tangible and intangible) as well as all liabilities. Irrespective of this difference in scope, the business valuation exercise is akin to the valuation of an asset or a security which is dependent on some basic financial concepts like time value of money, risk and return and future cash flows.

In general, the interpretation of the term "valuation" stands for estimating the worth or value of an asset or a security or a business under consideration. The value of a firm or a business believed to be an outcome of what an investor or a firm is willing to pay in order to purchase specific asset or security belonging to business. Obviously, two different buyers may not have the same valuation for an asset or a business as their perception regarding its worth or value may vary i.e. one may perceive the asset or a business to be of higher worth and hence may be willing to pay a higher price than the other.

In context of present globalized economy, it was observed that a new definitive position has been attained by banking sector, revealing that the major constituents of performance and value creation are financial knowledge, intellectual resources and intangible assets held by a bank. Thus greater emphasis begun to evolve in banking sector for adopting new value based performance metrics as a yardstick to benchmark performance.

It was observed that in context of literature concerning Value Creation is somewhat ascorbic emphasizing more upon some of the traditional measures like accounting profits, earnings and accruals. Whereas, most recently cash flows and residual income have gained greater attention amongst academicians and researchers. Some of the recent empirical studies in the area of value creation revealed that major axiom of research studies, was the Structure-Conduct-Performance (SCP) paradigm. The Structure-Conduct-Performance tries to explain the relationship between conduct and performance of the firms and the industrial structure behavior in which they operates.

According to Petty and Martin (2001) shareholder value is managed by identifying important factors that drive shareholders value in the capital market. According to Mason, (1939, 1949) and Bain (1951) an impairment of competition was observed to exit in banking industry due to increase in bank concentration, which laid to lowering of deposits rates, higher loan rates and greater profitability. Rhoades (1985) observed a positive relationship between bank's profitability and its market share, concentration and profitability, profitability and risk and between market growth and profit growth, which arise due to

barriers of entry in banking industry. Furthermore, suggested that advantage of product differentiation is a critical factor determining the relationship between the profit and the market share among the banks and not to be associated with the efficiency of banks. According to Dalborg (1999), shareholders' value creation is found to be achieved through excellence in banking operations and practicing the optimal financial structure in order to ensure credible growth in earnings of bank.

The conclusive reflections of some of the major studies in the area of Value creation did suggest that value creation can be enhanced by a business entity through the greater emphasis upon: (1) Improving each value adding function, (2) Linking customers and suppliers to increase their switching costs, and (3) Creating new business through new services or products.

3. Need of the Study

An exhaustive review of literature concerning value creation across banking industry, revealed that there exists a fundamental emphasis laid upon traditional accounting metrics as a measure to evaluate the performance of banks. However, it was observed that none of the previous studies focused upon the issue of determining the impact of strategy services, and technologies on value creation across the financial services sector. In context of value creation, one of the imperative fact is that value creation greatly various across industry and within industry as well.

Since, the objectives of the present study required an understanding of the various value creating measures and their impact on the value of an organization. Thus, the investigators sought to gather quantitative data related to value creation measures and also sought to calculate comparative results from both valuation techniques i.e. EVA and MVA The researchers have also prioritized both valuation tools and ranked them as per their outcomes.

4. Objectives

This research study is aimed at attaining the following objectives:

- To identify and analyze the value creating measures.
- To map the comparative results of value creation measures using value creation matrix.

5. Database and Methodology

The scope of the study is confined to Public and Private sector banks, ten each from both the sectors were selected as study sample. Furthermore, in this study only those banks, which are listed on the National Stock Exchange and covered under 'Bank Nifty-50' group were selected as the sampling unit of this study sample. The data for the period from 2011 to 2015 was analyzed to make a comparison between the selected banks. Furthermore, financial data for the present study have been collected from the official websites of the respective banks, NSE and Reserve Bank of India (RBI).

Value creation matrix is a mix of two value creating measures i.e. Market Value Added (MVA), and Economic Value Added (EVA). This value creation matrix ranked the results or outcomes of value creation measures in ascending order, from higher to lower across the selected banks over the study period. The effectiveness of each measure is checked based on its results or outcomes. In this study, value creation matrix was constructed using the Market Value Added (MVA) and Economic Value Added (EVA).

The MVA approach is based upon the concept of determining the change in the market value of a firm's equity vis-à-vis equity investment (consisting of equity share capital and retained profit). The concept of MVA is normally used in the area of equity investments. However, it can also be adapted to measure value creation through the perspective of providers of funds. In this study, the MVA was calculated by subtracting book value of firm's equity (equity capital investment of funds) from the market value of the firm's equity. This creates the following equation as given below:

MVA= Market value of the firm's equity - Equity capital investment of funds (1)

Where, market value of the firm was calculated by multiplying current market price of the firm by the total number of outstanding shares.

EVA as a concept of measuring the performance, measures the residual income that is the difference between firm's Cost of Capital (Ko) and Return on Capital Invested (ROIC). EVA being a tool of evaluation of performance emphasizes on maximization of shareholder wealth. It is expressed as the difference between company's "Net Operating Profit After Taxes" (NOPAT) and the product of Weighted Average Cost of Capital (WACC) and Capital Employed by the bank. In this study, EVA across the selected banks was estimated by focusing on Management of Capital approach, which is expressed as:

EVA= NOPAT-(WACC*Total Capital invested)(2)

6. Data Analysis and Findings

The underlying concept of MVA, as a measure of value creation focuses upon the issue of measuring the change in the market value of firm's equity in relation to a subsequent rise in the equity investment in a firm over a stated period of time. The significance

of this concept in context of its applicability is normally observed to be dominant in the field of equity management .While it can equally be good in terms of its application to understand the perspective of investors about measurement of firm's value .

The EVA as a concept is based on the past performance of the corporate enterprise. The underlying economic principle, involved in this concept is to determine whether the firm is earning a higher rate of return (ROI) over its Cost of Capital (measured in terms of the weighted average cost of capital, WACC)during a said period of time.

7. EVA of Public Sectors Banks

Over the study period, the spread of EVA across public sector banks revealed that only Central Bank of India, has performed well having higher and positive EVA value, as compared to other banks. Apart from this, it was observed that over the study period, almost all public sector banks shown a negative trend in EVA value. The Canara bank had the highest value spread over the time frame of five years.

8. EVA of Private Sectors Banks

It was quite clear and evident from figure given below that in relation to selected private sector banks, it was observed that they have performed well in terms of value creation. Almost, on an average most of the private sector banks had positive EVA from the difference of last five years. The quantum of EVA across the private sector banks revealed that ICICI bank created maximum of EVA value; which dominated over the other banks.

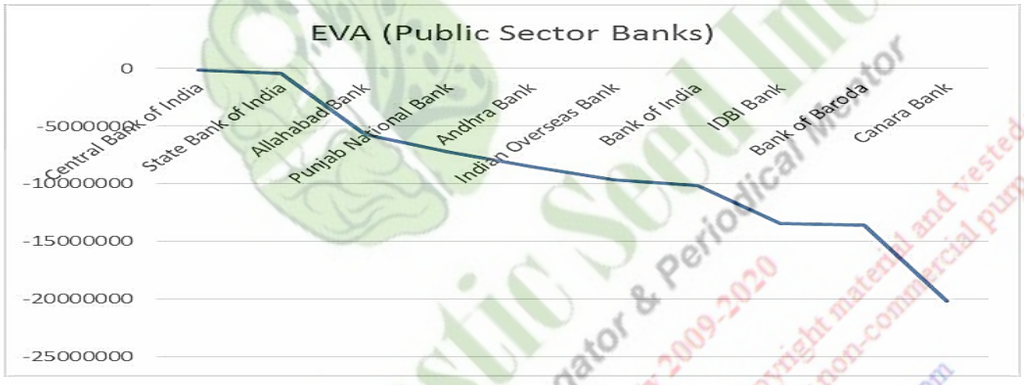

Figure 1. Variations in EVA (in Rs) of Public Sectors Banks from 2011to 2015.

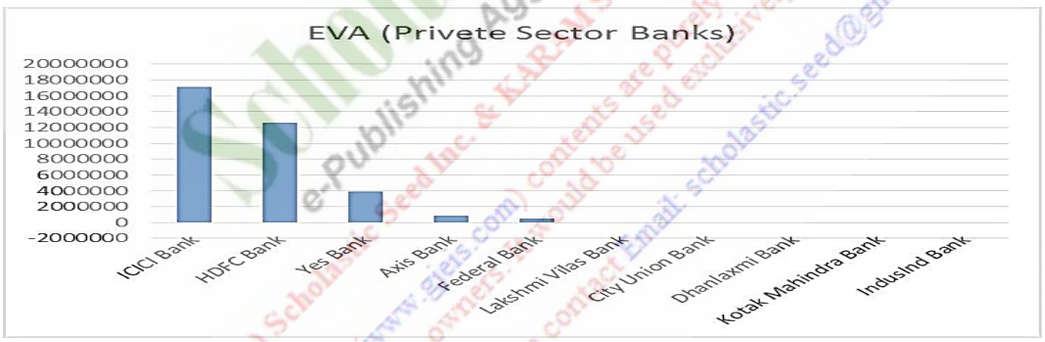

Figure 2. Variations in EVA (in Rs) of Private Sector Banks from 2011 to 2015.

Figure 3. Variations in MVA (in Rs) of Public Sector Banks from 2011 to 2015.

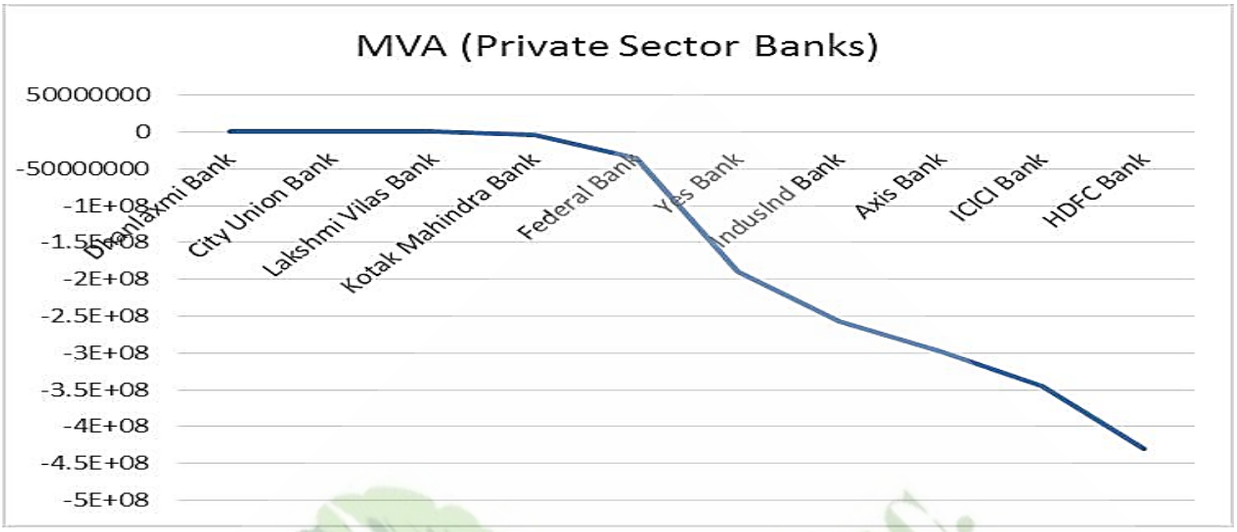

Figure 4. Variations in MVA (in Rs) of Private Sector Banks from 2011 to 2015.

Table 1. Value Creation Matrix based on EVA in Public Sector Banks from 2011 to 2015 (Amount, in Rs)

Public Sector Banks	2011	2012	2013	2014	2015
Allahabad Bank	-14506.41	-595832.83	-103611.72	-5261305.06	-5736703.89
Andhra Bank	2022496.28	1090373.65	353032.02	-7284412.12	-6475274.96
Bank of Baroda	2473463.71	4022025.52	586224.82	-7930411.30	-11119944.63
Bank of India	-3524042.26	-2202426.40	-4992788.32	-6894091.76	-13651700.35
Canara Bank	2267575.14	3170552.79	-5759725.18	-9093657.97	-17892280.14
Central Bank of India	6330.28	10621.09	-81927.75	-102911.77	-147184.12
IDBI Bank	-2484099.34	-2864376.07	-5643676.12	-7970079.65	-15934366.41
Indian Overseas Bank	-3685828.11	-2393437.13	-5365041.59	-10286795.53	-13322811.28
Punjab National Bank	5607808.39	6033563.60	1496638.39	681135.18	-1621873.31
State Bank of India	-96222.42	-182468.70	-131108.60	-104676.13	-538889.20

9. MVA of Public Sector Banks

In context of market value added, it was observed that PNB was the only bank who had performed well in the stock market, having the higher value spread over the time frame of the study. Apart from this Bank, it was Bank of Baroda who had performed well in a concerning manner in the stock market over the study period.

10. MVA of Private Sector Banks

MVA in private sector banks did not indicate a good sign of performance. It was observed that such banks which have performed well over the economic value added front; have not performed so well in the stock market over the study period. Furthermore, it was quite clear and evident as revealed through figure(4) given below, that majority of private sectors banks had a negative spread in the stock market, over the study period.

11. Snapshot of Value Creation Matrix

As one of the intended objective of this study was to construct Valve Creation Matrix. It was constructed based upon the computed values of EVA and MVA across the selected banks of this study. The constructed value creation matrices of selected banks are represented through tables1to4 given below. The constructed value creation matrices, reflected the total sum of EVA and MVA calculated for all public sectors banks and private sector banks during the period of 2011-2015.

It is clearly evident from the Tables 1 to 4 in explicit manner that the majority banks of have created negative value, which is a

Table 2. Value Creation Matrix based on EVA in Private Sector Banks from 2011 to 2015 (Amount, in Rs)

Private Sector Banks	2011	2012	2013	2014	2015
Axis Bank	-1608632.09	1796792.81	3409228.88	-1583443.64	-707283.53
City Union Bank	10933.72	-2053.42	1941.49	1525.50	-693.07
Dhanlaxmi Bank	5895.23	-6427.52	-14748.10	-14974.57	-31724.24
Federal Bank	-3146760.01	-2827245.89	-1733064.97	-1970535.92	-2680996.63
HDFC Bank	-6831378.94	-5715907.70	-3306816.72	2598088.96	5743233.30
ICICI Bank	-26946743.36	-22101887.41	-17788190.73	-12314259.44	-9786618.27
IndusInd Bank	-130042.57	-613550.83	395305.77	-1306922.88	-183229.39
Kotak Mahindra Bank	-12291.49	-17860.35	-8785.65	-5856.49	-53181.35
Lakshmi Vilas Bank	-7387.64	-2816.12	-3698.02	-6843.43	-9588.39
Yes Bank	-151804.53	808911.98	1920111.03	3168298.54	3782122.95

Table 3. Value Creation Matrix based on MVA in Public Sector Banks from 2011 to 2015 (Amount, in Rs)

Public Sector Banks	2011	2012	2013	2014	2015
Allahabad Bank	-8207764.00	-39809592.23	-20061676.00	-56072153.62	5019906.87
Andhra Bank	1780565.00	-29838470.92	-8838356.86	312594819.00	1333050.71
Bank of Baroda	-71824732.19	-159719980.50	-203306379.70	-263469981.30	-282619263.40
Bank of India	16421088.28	-42695916.98	-12557659.50	-80266125.11	-8851092.64
Canara Bank	37249166.00	-75361438.00	-6772856.00	-87304389.00	8344990.70
Central Bank of India	1048456.67	341884.11	917634.12	220034.64	0.00
IDBI Bank	-48608950.02	-80241377.76	-51794988.54	-108464737.50	28341697.00
Indian Overseas Bank	43493329.00	-21381568.81	39565219.26	36337856.74	143182237.40
Punjab National Bank	-108146407.30	-175392171.50	-219065467.20	0.00	0.00
State Bank of India	-4615046.72	-5376876.50	-6794354.08	-8780855.03	-9728944.82

Table 4. Value Creation Matrix based on MVA in Private Sector Banks from 2011 to 2015 (Amount, in Rs)

Private Sector Banks	2011	2012	2013	2014	2015
Axis Bank	43114977.84	-83283296.12	-115979072.90	-255447792.70	-255337426.10
City Union Bank	-44941.66	-142433.50	-101512.03	-83575.49	-60718.60
Dhanlaxmi Bank	-17911.16	-49812.02	-16249.47	-35002.42	86676.89
Federal Bank	-20958778.90	-36710108.25	-38651759.16	-52124075.97	-55915033.05
HDFC Bank	220392722.30	56006984.35	0.00	-154841984.00	-209625784.40
ICICI Bank	-122516282.50	-297793999.00	-341600864.50	-509047349.10	-467539217.70
IndusInd Bank	305570108.40	155609532.10	147747539.80	41894727.33	48895955.21
Kotak Mahindra Bank	3946149.46	2003516.30	1612802.17	662548.15	0.00
Lakshmi Vilas Bank	9276.03	-29753.18	-13567.88	-33907.06	-20873.04
Yes Bank	231344636.00	90573105.42	117037443.00	27562300.24	41588780.08

sign of value destruction in the Banking sector of India. One of the conclusions that can be drawn on the basis of above shown tables, is that across banking industry of India, Irrespective of public or private sector banks, poor performance was observed in terms of value creation over the study period.

12. Conclusions and Implications

The comparison of select value creation measures used in this study, revealed that all the private sector banks have shown a growing trend in EVA, i.e. shown a sharp increase in its value.

Whereas in case of public sector banks a declining trends in EVA was observed. However, in context of MVA a declining trends was revealed across the selected banks .Thus, we can say that there is an inverse relationship between the EVA and MVA across the selected banks. Thus, one can conclude that financial performance of bank plays an important role in the expectations of market behavior and market movement of stock prices, which investors seek to achieve. The select measures of value creation used in this study fundamentally revealed that across the selected banks performance was significantly poor over the study period i.e. most of the selected banks failed to provide adequate values to their financial investors. In particular, over the study period bank's EVA and MVA shown a negative trend during the period 2011-2015.Furthermore, it was observed that most of the selected banks could not even recover the invested capital in them.

One of the contrasting fact that we could observe through the results of this study is that one bank across the study sample created significantly more value than the other selected banks. So a fundamental question arises that can be raised based upon this result is that what did this bank do inorder to create much more value than other banks. Thus, one of the possible proposition of enhancing value creation could presumably be that financial excellence is the underlying essence of creating value. Thus, it can be concluded that the potential for creating value can be increased by banks through the optimum utilization of its unique resources, process and information contents.

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Survey Analysis on the usage and Impact of Whatsapp Messenger

Naveen Kumar* and Sudhansh Sharma

SOCIS, Indira Gandhi National Open University, New Delhi-110030, Delhi, India; naveenkumar@ignou.ac.in, sudhansh@ignou.ac.in

Abstract

WhatsApp is a popular mobile application for providing instant messaging service in smartphones. It uses Internet services to communicate different type of text and multimedia messages between users or groups. Its users worldwide have crossed the figure of one billion in February 2016. The effect of WhatsApp on our lives, culture, and society keeps on increasing. It is also becoming popular tool for marketing in businesses and publicity in politics. This growth has also drawn the attention of researchers to understand the implications and effect of WhatsApp on its user's social and personal life. We investigated the usage and effect of WhatsApp in the regions of Northern India. We performed an internet based survey using open-source Lime survey software and obtained responses. Total 460 responses had been received in which only 136 responses were considered for analysis those have completed all questions and having more than 18 years of age. The users in India made a slow shift from all social networking sites to WhatsApp in a quick span of time. This survey results show that there is a significant impact of WhatsApp on its users. Around 66% of WhatsApp users believe that WhatsApp has improved their relationship with friends. More than 63% of its users think it is not harmful for them. There are several other analyses presented in this paper based on age-groups and gender of WhatsApp users. This survey analysis may be useful for academicians and researchers for understanding the behavior of WhatsApp users and reflect the possibility of using WhatsApp in education, social services and governance.

Keywords: Instance Messenger, Impact, Survey, Usage, WhatsApp

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1. Introduction

The world is dynamically changing due to the advancement in the mobile technology. These days it is almost impossible to avoid the presence of mobile applications or called Mobile Apps. Most of the

People can praise the various mobile applications that they use in their everyday lives. Several people are heavily dependent of the usage of such applications for their day to day activities6. Technology is evolving at a really quick rate, and what are its impacts on the general public need to be studied and analyzed.

WhatsApp is one among the major change in mobile apps communication in the recent past, it users is growing very fast on mobile phones and also on the computers. The graph below shows its grown of users in recent years. This statistic shows a timeline with the amount of monthly active WhatsApp users worldwide as of February 2016. As of that month, the mobile messaging app announced more than 1 billion monthly active users, up from over 700 million in January 2015. The service is one of the most popular mobile apps worldwide1.

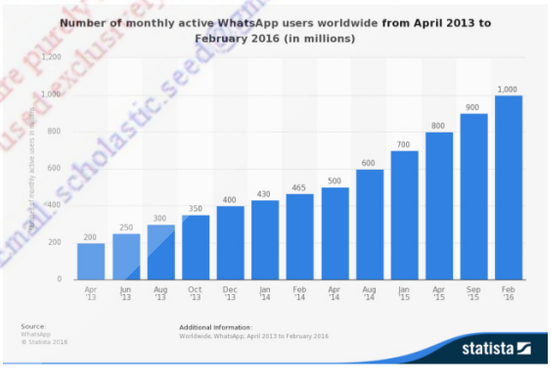


Figure 1. Growth of WhatsApp users 2013 to 2016.

WhatsApp has been around for a short while however its regular updates have been improving it's the functionality since its release date. Some of its features are also updated recently after initiating this online survey, hence these feature could not be addressed appropriately. Mainly WhatsApp was started to interchange SMS with a cross-platform feature. If you have got unlimited text, it's still helpful. WhatsApp uses mobile net-

*Author for correspondence

work data or local area network to send and receive messages. In addition to text communication, users can also send pictures, video and audio media messages easily. Since the Smartphones became common, several electronic communication services for smartphones were launched however WhatsApp has become highly popular among them. Mobile messaging applications like WhatsApp have emerged as largely free alternatives to standard SMS messaging. Besides text electronic messaging they additionally support the exchange of pictures, videos, or voice records2,3. Besides all, this Application is very addictive and might produce an excellent impact on regular users, and with the exception of that it will leave a trace that becomes tough to manage and cure4.

2. Review of Literature

Various studies and analysis has been done on the usage and impact of WhatsApp. Some of these studies are for finding the impact of WhatsApp on the students and some are based on for the general public in a local region. However, any widespread survey analysis for general public is not found during our literature review. Some of these papers details are discussed below.

According to Financial Times, "WhatsApp Messenger, an app which allows unlimited free text-messaging between users, has done to SMS on mobile phones what Skype did to international calling on landlines. It has become a top-selling iPhone, Android and BlackBerry app in dozens of markets, without a penny spent on promotion or advertising."2,3. In a paper entitled "What Makes Smartphone Users Satisfied with the Mobile Instant Messenger?: Social Presence, Flow, and Self-disclosure"5 Author has studied and analyzed factors affecting user satisfaction by conducting a survey on 220 users of mobile instant messengers in smartphones. The survey results showed that self-disclosure, flow, and social presence significantly affected user satisfaction.

Authors of "Privacy Implications of Presence Sharing in Mobile Messaging Applications"7 conducted a user study with two independent groups (19 participants in total), in which we collected and analyzed their presence information over four weeks of regular WhatsApp use and conducted follow-up interviews. Their results show that presence information alone is sufficient to accurately identify, for example, daily routines, deviations, times of inappropriate mobile messaging, or conversation partners. Another study is done on the WhatsApp Usage on the Students Performance in Ghana8. The results of this study showed the following: WhatsApp takes much of students study time, results in procrastination related problems, destroys students' spellings and grammatical construction of sentences, leads to lack of concentration during lectures, results in difficulty in balancing online activities (WhatsApp) and academic preparation and distracts students from completing their assignments and adhering to their private studies time table.

In a study of southern part of India (Chennai region) was conducted on the age group of between 18 to 23 years to investigate the importance of WhatsApp among youth9. Through this study, It was found that students spent 8 hours per day on using WhatsApp and remain online almost 16 hours a day. All the respondents agreed that they are using WhatsApp for communicating with their friends. They also exchange images, audio and video files with their friends using WhatsApp. It was also proved that the only application that the youth uses when they are spending time on their smart phone is WhatsApp.

In a paper "Smartphone application usage amongst students at a South African University", a study is performed to evaluate the usage of social networking applications in South African University. According to this study, it is proved that students spend an average of five hours per day on their smartphones communicating with others through social networking applications10. An article of Times of India Online newspaper dated June 16, 2013, covered a survey, which was conducted by Tata Consultancy Services in the years 2012-2013. The target group of this survey was 17,500 high school students of age around 14-15 years across 14 Indian cities. The result shows that almost 70% of the students possess smart phones and have started utilizing the full potential of smart phones9. According to Business Standard in its news on March 3, 2014, the combined usage of WhatsApp and Facebook contributes to over half and hour per day to the overall time spent on smartphones, says a study11

3. Research Methods

The study uses Lime survey, open source software for conducting on-line survey. A form was developed with both close-ended and open ended questions to assess the demographics of users, usage of WhatsApp options, intensity of usage, reasons of using, and impact on social and private life of users. This study examines the usage and impact of WhatsApp mobile application among the users in the regions of Northern India. The objectives for the study are:

1. To analyze the intensity of WhatsApp usage and its popular services
2. To identify the degree of positive or negative impacts of using WhatsApp
3. To seek the frequency and interactivity of WhatsApp among its users.
4. To explore the options of WhatsApp used the foremost by adults (more than 18 years of age).
5. To find out whether or not users are satisfied with the WhatsApp.
6. To explore the impact of WhatsApp on individual personal and social life.

The open ended questions gave the samples an opportunity to express their views regarding WhatsApp messenger and to list out a number of the options that they just like the most within the app. This gave the researcher to collect additional data relating to WhatsApp messenger and users viewpoint. The researcher used judgmental sampling to identify the samples for the study. Some questions were designed to ascertain the validity of answers and seriousness of users toward the filling of the form. Survey was distributed to various regions of India. The researchers made use of each primary and secondary data, that were gathered from diverse sources, including, archival sources, text books, journals/articles (both publish and unpublished), and websites.

4. Results and Discussion

A survey was conducted on actual users of smartphone instant messengers. The questionnaire was performed an internet based survey using open-source Lime survey software and obtained responses. Total 460 responses had been received in which only 136 responses were considered for analysis those have completed all questions and having more than 18 years of age.

In total valid 136 entries 36 female and 100 males entries are distributed in different age groups as shown below in the Figure 2. This shows that most of adult WhatsApp users belong to age group of 18 to 50 years. We have not received any entry apart from male and female. The gender distribution reflects that only 36% of women candidates have participated in the survey compared to male candidates. However, it may not be sufficient to draw such conclusion.

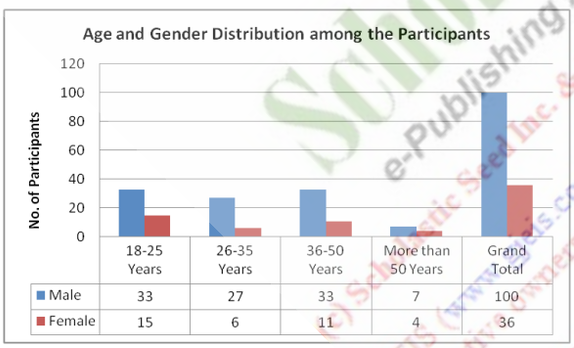


Figure 2. Age and Gender of Participants.

To know the maturity of our participants of using WhatsApp, we have collected information. So that opinions of these participants can be justified. The Figure 3 given below shows that most of the participants including male and female are using WhatsApp since one year.

The Figure 4 given below depicts the everyday usage of WhatsApp among different gender. Overall we can see that most of the participants are using WhatsApp 15 to 60 minutes daily. This figure also indicates that both male and female are equally involved in using WhatsApp daily,

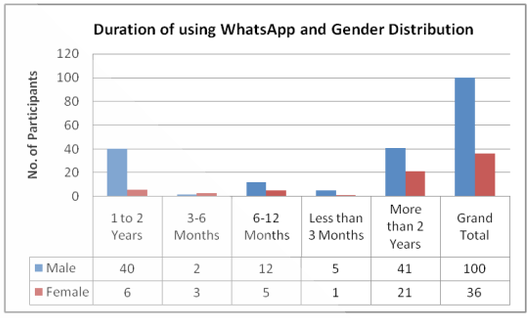


Figure 3. Maturity of WhatsApp Users with Gender Distribution.

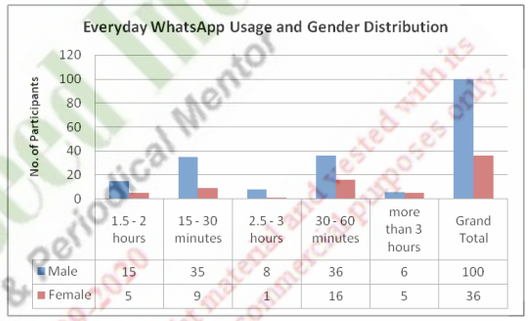


Figure 4. Everyday Usage of WhatsApp among Different Gender.

One of the objectives of our survey is to find the WhatsApp services preferred by the users. To know this direct question of using WhatsApp compared to normal SMS/Calling of mobile phone is asked to the users. The Figure 5 shows that participants are not giving direct indication towards one opinion. However, participants those are preferring WhatsApp over mobile phone is slightly high. Considering the minor difference, we are unable to make and conclusion from this result.

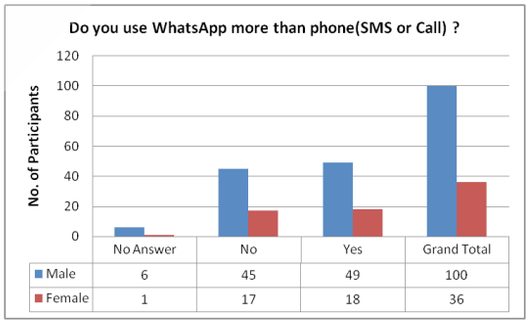


Figure 5. Participants Opinion on Usage of WhatsApp as Calling or Messaging.

To know which service of WhatsApp is more used, we have asked to the participants whether they like WhatsApp calling feature or not. As shown in Figure 6 below, 83% of our participants mentioned that they do not like calling service of WhatsApp in comparison to normal talking using mobile phone. This result gives strong indication that the internet based calling service of WhatsApp need more improvement for its wider acceptance.

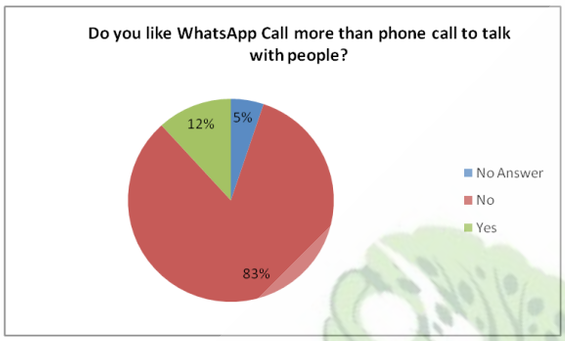
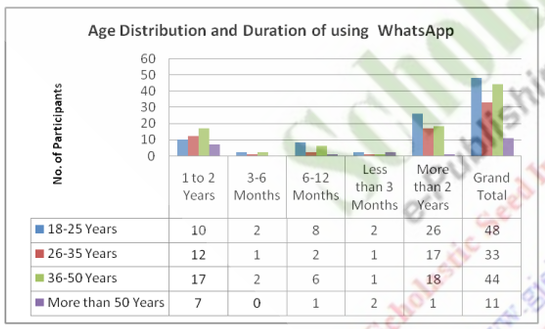


Figure 6. Opinion on Usage of WhatsApp as Calling or Phone for Calling.

To understand the involvement of different age groups and gender groups with the WhatsApp following chart is generated. This Figure 7 depicts that 73% of our participants are using this App for more than a year and fall between 18-50 years. Considering the maturity of using WhatsApp, the opinion of our participants seek through this questionnaire would be more significant.

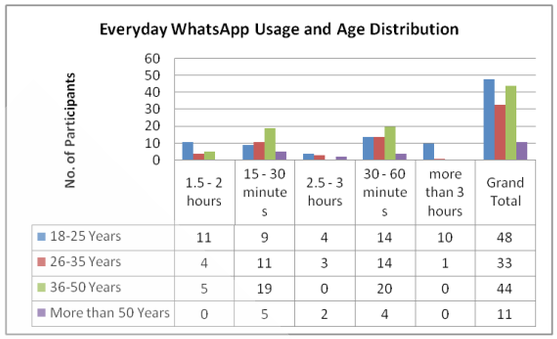


	1 to 2 Years	3-6 Months	6-12 Months	Less than 3 Months	More than 2 Years	Grand Total
18-25 Years	10	2	8	2	26	48
26-35 Years	12	1	2	1	17	33
36-50 Years	17	2	6	1	18	44
More than 50 Years	7	0	1	2	1	11

Figure 7. Participants Age and Duration of Usages.

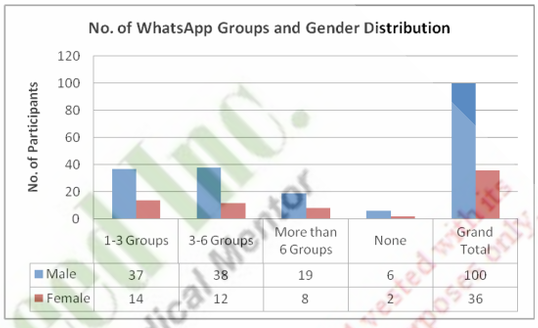
The Figure 8 below shows the age distribution and everyday usage of WhatsApp by participants. It shows that 79% of our participants of between 18-50 years are using WhatsApp 15 to 60 minutes daily.

Figure 9 shows that 57% male and 55% females are member of 3 to 6 groups on the WhatsApp. 37% males are 38% females are having membership of 1 to 3 groups. Only very few people are not having any group membership. During our study we realized that people behaviors and impact of communications/post on the group members need to be studied separately.



	1.5 - 2 hours	15 - 30 minutes	2.5 - 3 hours	30 - 60 minutes	more than 3 hours	Grand Total
18-25 Years	11	9	4	14	10	48
26-35 Years	4	11	3	14	1	33
36-50 Years	5	19	0	20	0	44
More than 50 Years	0	5	2	4	0	11

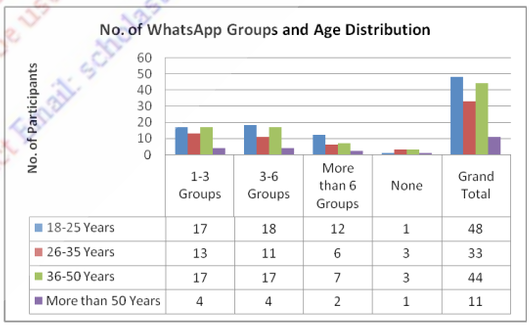
Figure 8. Participants Everyday Usages of WhatsApp and Age.



	1-3 Groups	3-6 Groups	More than 6 Groups	None	Grand Total
Male	37	38	19	6	100
Female	14	12	8	2	36

Figure 9. Participants Involvement in WhatsApp Groups and Gender.

Age distribution and people involvement on the WhatsApp groups is reflected in the Figure 10 given below. It shows that 57% of population is having membership of 3 to 6 groups and 37% of people are members of 1 to 3 groups between 18 to 59 years of age. Mostly people of 18 to 25 years are involved in the groups, however people of 36 to 50 years are also having high involvement in the WhatsApp groups.



	1-3 Groups	3-6 Groups	More than 6 Groups	None	Grand Total
18-25 Years	17	18	12	1	48
26-35 Years	13	11	6	3	33
36-50 Years	17	17	7	3	44
More than 50 Years	4	4	2	1	11

Figure 10. Participants Involvement in WhatsApp Groups and Age Distribution.

To understand the reasons of using WhatsApp, a direct question is asked with multiple answering options including text box so that people can write any other reason. Most of the participants have given multiple reasons of using WhatsApp and negligible people have mentioned any other reason.

The Figure 11 below shows clearly that due to WhatsApp features and its technique for communication is appreciated by the users. However, people are also using WhatsApp because its free and other family/friends are using it.

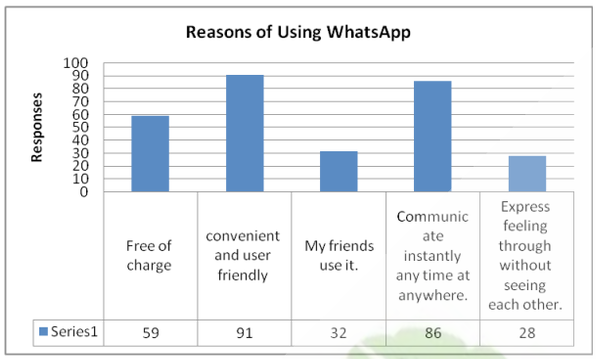


Figure 11. Participants Major Reasons of Using WhatsApp.

To understand people thinking toward WhatsApp, direct question is asked that whether WhatsApp harms you or not. As shown below in Figure 12, 64% people think that it does not harms them. 17% people have not given there opinion about this question. Only 19% of people have admitted that yes it harm them.

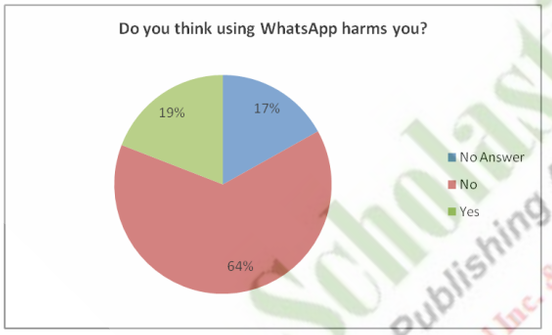


Figure 12. Participants Opinion whether WhatsApp is Harmful or Not.

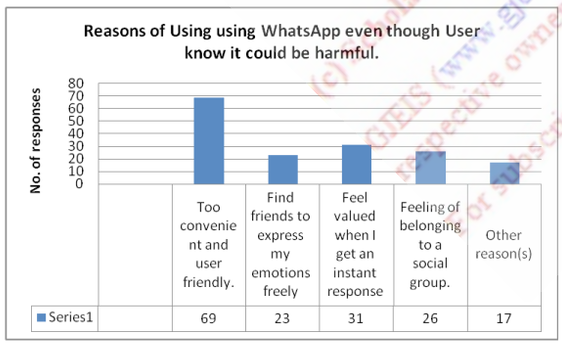


Figure 13. Major Reasons of using WhatsApp Even Believing it is Harmful.

To understand the reasons of using WhatsApp even though people think it is harmful, a direct question is asked with multiple answering options. Figure 13 given below shows that most of the people are compelled to use it because of the social and physiological reasons. However 69 respondents says that they are using it because it is user friends.

To know people opinion that WhatsApp is helpful in improving their family relationship or not a direct question is asked. Figure 14 below shows 44 % people are in favor and 39% are not in favor of this.

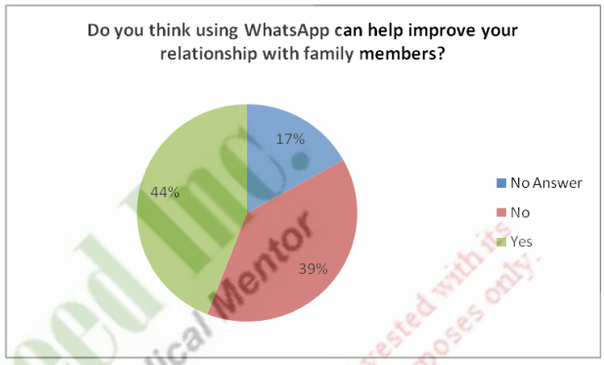


Figure 14. Participants Opinion about WhatsApp Improves Family Relationship or Not.

To know people opinion that WhatsApp is helpful in improving their relationship with family members or not a direct question is asked. Figure 15 below shows 66 % people are in favor and 23% are not in favor of this. In case of friends majority of people think WhatsApp is helpful however, in case of family relationship it is not a fact.

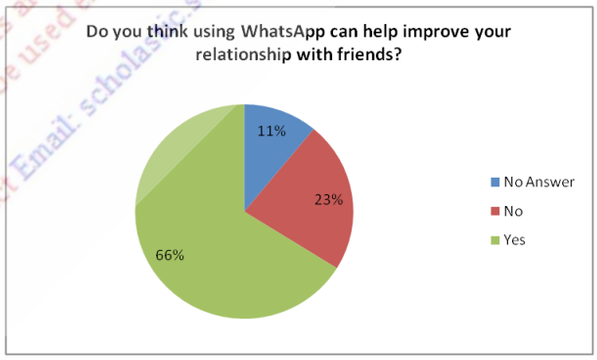


Figure 15. Participants Opinion about WhatsApp Improves Friends Relationship or Not.

As depicted in the Figure 16 below, 54% of people think they are able to manage their time while using the WhatsApp and 29% people think somewhere they are not able to manage their time properly with WhatsApp.

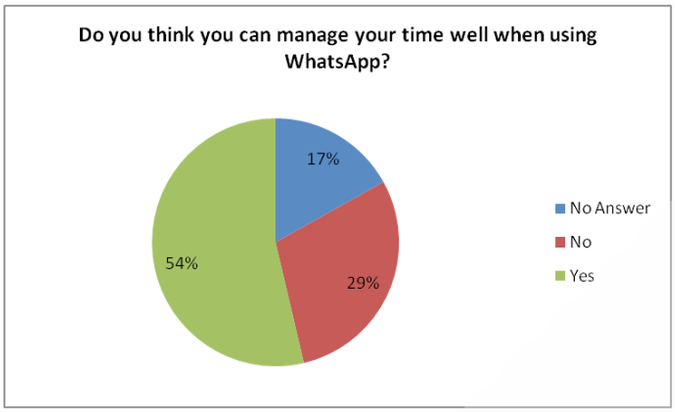


Figure 16. Participants Opinion about their Time Management with WhatsApp.

5. Conclusion

The sample for this study was limited to a 136 respondents in India. The study may be extended to additional cities with more respondents. The study ought to have enclosed alternative apps like Viber and Hyke messenger that is gaining quality in today's state of affairs. There is limited literature review available in Indian context, with relation to WhatsApp usage. Several studies were done on foreign context than in India. Many studies conducted in India by taking the users as respondents have discovered that smart devices and unprecedented levels of online access are creating this generation the foremost connected. Previously, only friends and lovers tend to possess robust relationships with intimate conversations. However currently whoever you chat through WhatsApp, you develop intimate conversations. WhatsApp has created a way of belongingness, distance and intimacy with friends and relatives. it's created a psychological expertise of being shut and caring. WhatsApp has become therefore cozy/ comfortable an application among kids. Currently WhatsApp is getting used by youth for creating, sharing and exchanging information.

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A Study of Determinants of Career Aspirations vis a vis Career Planning among MBA Students

Ruchi Gautam[1]*, Rachna Nigam[1] and Snigdha Mishra[2]

[1]*Asst. Professor-HR, ITM Business School, Navi Mumbai, Maharashtra, India ; ruchig@itm.edu, rachnan@itm.edu*

[2]*Professor-HR, ITM Business School, Navi Mumbai, Maharashtra, India; snigdharani@itm.edu*

Abstract

Career aspiration of every individual is to learn and grow in terms of knowledge and experience in any given field. Aspirations are usually future oriented. Career Planning, on the other hand, is the systematic process by which one selects career goals and the respective path to achieve these goals. This research focuses on the factors which influence the career choices and ambitions of MBA students and what they expect from their potential employers.

It has been seen that there are many factors that influence the career choices that students make like the employer brand, designation given, roles and responsibilities etc. Besides the factors mentioned above, family issues, social standing, gender issues also compel the person to decide on their career path. With this backdrop, this research mainly focuses on the factors that affect the MBA students with respect to their career planning and aspires to lookout for meaningful explanation to the area of research.

Keywords: Career Planning, Career Aspirations, Graduates, MBA Students, Students

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1. Introduction

An MBA graduate usually carries with him certain aspirations which he wishes to fulfill once he gets placed. Career aspiration of every individual is to learn and grow in terms of knowledge and experience in any given field. Other aspirations could be to grow up the corporate ladder and be a part of the top management team. Aspirations are usually future oriented. Career Planning, on the other hand, is the systematic process by which one selects career goals and the path to achieve these selected goals.

The career planning that one undertakes helps him/her to achieve the goals mentioned above. It has been observed that there are many instances when the student is unable to get what he desires in terms of his corporate life.

MBA is a degree designed to give the student the ability to develop his/her career to its fullest potential, at an accelerated pace. The brands associated with business school and type of program one attends at B-School can help open doors for the students based on the B-school's reputation. A powerful brand can give the students the suppleness to make changes throughout their career graph.

As given by Mau & Bikos (2000)[1] and Schoon & Parsons (2002)[2] Students' occupational aspirations and expectations have been viewed as significant determinants of both short-term educational and long-term career choices. The above said aspects also seem to have an impact on reflection of students' future social mobility and career self-concept. These have been regarded as important career motivational variables, predictive of later career attainment levels as deliberated by researchers Chung, Loeb, & Gonzo (1996)[3].

Researchers observations and experiences reflect that MBA student's career aspirations and career planning often conflict with each other. Though students might have laid down a systematic career plan for themselves, they are often compelled to digress to suit the organization's requirements. In such cases, students might feel demotivated and possibly let down by the organization. Besides the above aspects, the MBA education and the related costs also comes into picture and students expect an ROI through their new jobs. This generally makes them focused on the compensation rather than the profile of their interest. Hence, we can understand that there is a gap which exists between the career aspirations and planning of MBA students.

To overcome this the fresh MBA student should not only be clear about the understanding of what determines the career expectations when they opt for jobs but also the expectations of the recruiters.

It is imperative to bridge the gap between the career aspirations and career planning of MBA students to help them cope up with both organizational and market scenario changes.

*Author for correspondence

2. Objectives

To understand the factors which form the base of career aspirations of the MBA students

To reconnoiter the gap between the career aspiration and career planning

To study the impact of demography on career aspiration and planning

3. Literature Review

Career aspiration of every individual is to learn and grow in terms of knowledge and experience in any given field. Aspirations are usually future oriented while Career Planning, on the other hand is the systematic process by which one selects career goals and the path to achieve these goals. According to Schoon & Parsons (2002)[4], the current research on occupational aspirations of graduates has been conceptualized within theories that more readily recognize the influence of contextual factors. Social Cognitive Career Theory (SCCT; Lent, Brown, & Hackett, 2002)[5] emphasizes the psychological and social significance of demographic influences on the students' occupational aspirations. SCCT holds that occupational aspirations are influenced by the different socialization practices that MBA graduates are exposed to, as well as by students' internalization of these different experiences. These influences include psychological, historical, cultural, economic and socio-political variables.

Specifically, SCCT views occupational aspirations and expectations as a reflection of the graduate's career self-efficacy. Besides the above Gender of the aspirant has been found to be one of prominent factor which influences their occupational aspirations and expectations (Rojewski, 2005; Rojewski & Hill, 1998)[6] It has also been observed that financial and social status play a major role in deciding occupation paths and goals the students aspired to pursue in this phase of their life.

It has been indicated through various research that Gender has been the predominant variable in research on students' occupational aspirations and expectations (Rojewski, 2005; Rojewski & Hill, 1998)[7]. Further status and income level of students and their family seems to have a great impact on their career aspirations and planning. It is that female students aspire within a limited range of occupational choices which fall under typical social stereotypes and suits their requirement to create a balance in their personal and professional duties. Other cognitive-personal and contextual variables that may impact on students' occupational aspirations and expectations seem less well researched, including socioeconomic status, long identified as an influential variable (Patton, Wendy, creed and Peter)[8]. Research that has been conducted indicates that higher socioeconomic status levels have a positive effect on student aspirations (Lee, 1984)[9], while lower socioeconomic status levels reflect a perceived lack of parental support for student occupational aspirations (McWhirter, Hackett, & Bandalos, 1998)[10] or a circumscription of future occupational aspirations to accommodate perceived limited local work opportunities (Furlong & Cartmel, 1995)[11]. Students' academic performance, as well as the school system also have seemed to impact occupational aspirations and expectations. This says that path to higher education and professional excellence is carved very early in a student's life, as early as their high school performance. As it helps the student to understand his strength at academics and the students who are confident of their academic ability have generally shown a higher occupational aspirations and expectations (Furlong & Biggart , 1999)[12].

Further the psychological and mental state of the students just before entering the corporate arena is filled with confusion, intimidation, and excitement. They have certain aspirations and expectations from their potential recruiters which they hope would be fulfilled, and when they are not fulfilled, their motivation level goes down. According to our understanding, this is one area where no in-depth study has been conducted which tells candidates how to tackle the situation in such circumstances.

4. Research Methodology

To explore Career Aspirations Vs Career Planning amongst MBA students, survey research methodology was adopted. The data was collected by both primary and secondary method. The questionnaire was prepared by exploring secondary data such as HR blogs, Journals, Research papers, latest interviews of HR professionals in various articles. The questionnaire was developed and distributed amongst 110 students of various Business Schools across Mumbai & Navi Mumbai. The questions were based on dimensions and factors, that are major determinants of Career Aspirations and Career Planning of MBA students.

5. Data Analysis and Interpretation

5.1 Demographic Analysis

5.1.1 Gender

Total 110 respondents responded to the questionnaire. Out of them 69(61%) were male and rest 41(39%) were females. This ratio has been taken to give a clarity to understand and generalize to the entire MBA student population. The graphical representation of the data is presented below as in Fig 1(a)

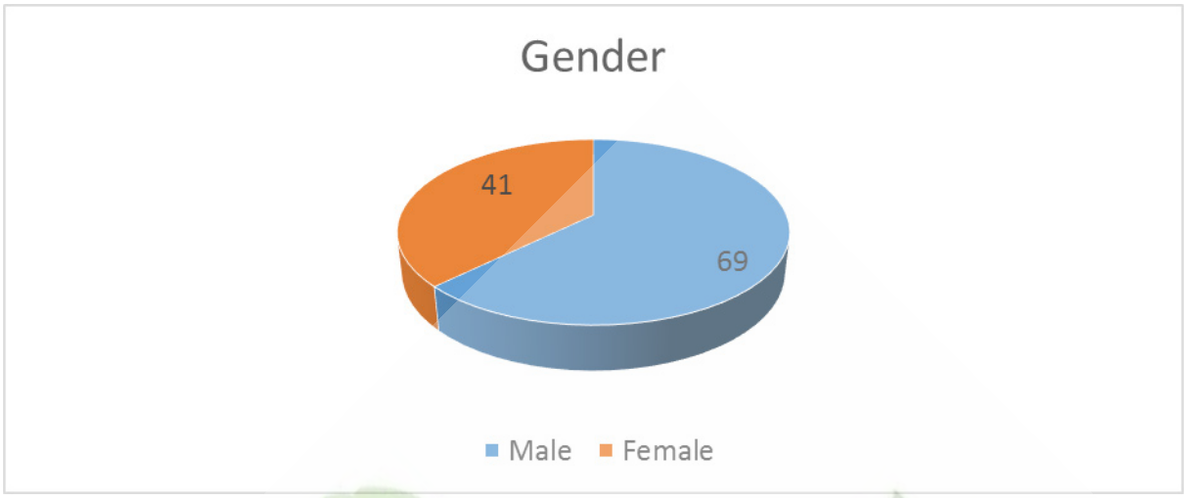


Figure 1 (a). Gender -Male=69&Female=41.

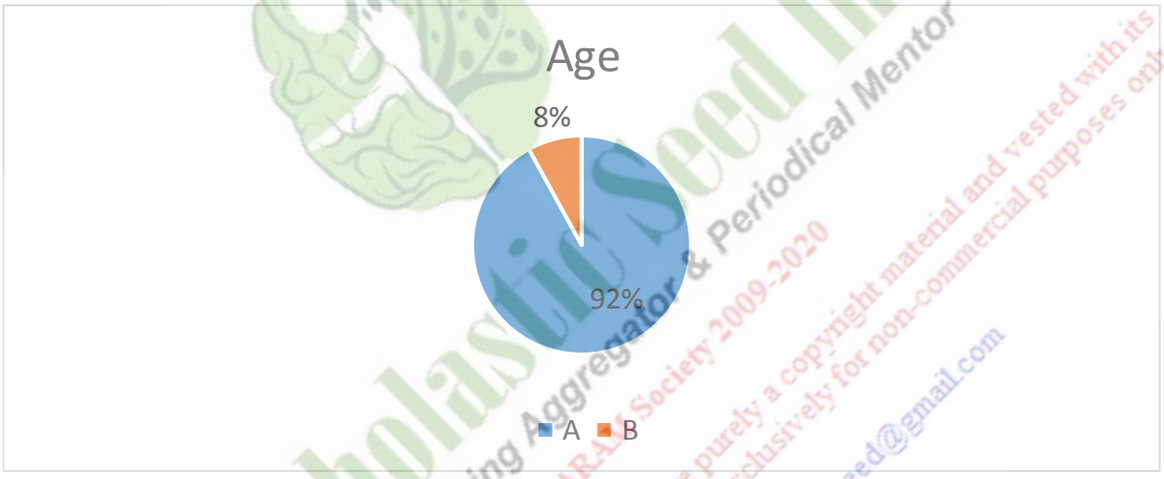


Figure 1 (b). Age.

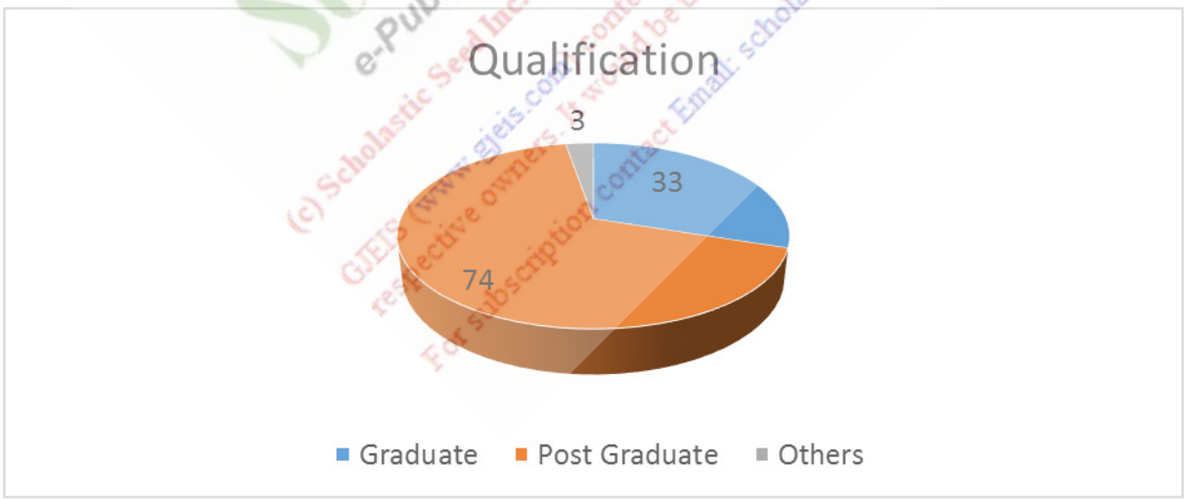


Figure 1 (c). Qualification.

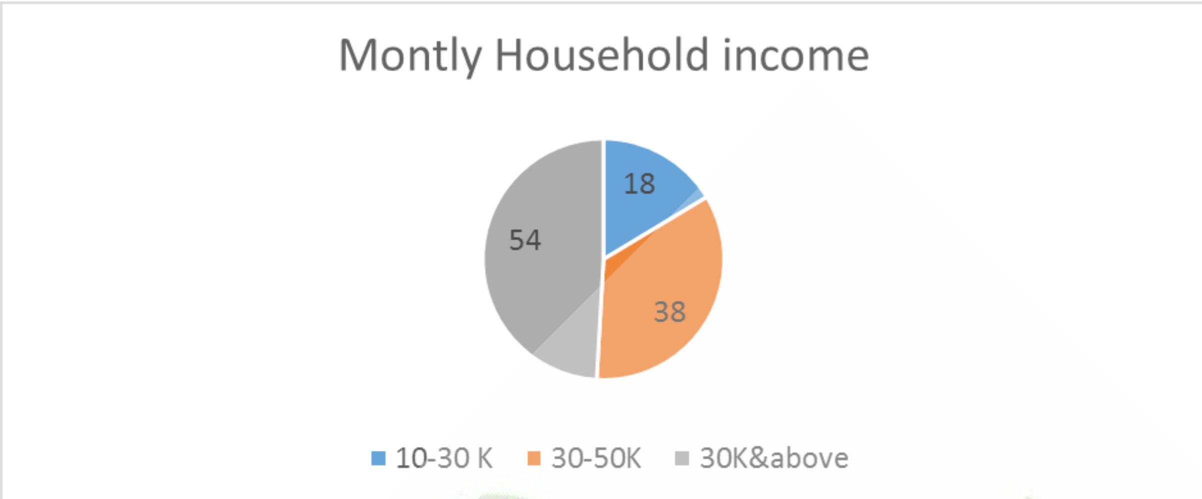


Figure 1 (d) Monthly Household Income.

5.1.2 Age

Fig 1(b) - The respondents for the research belonged to the 2 different categories namely A and B.

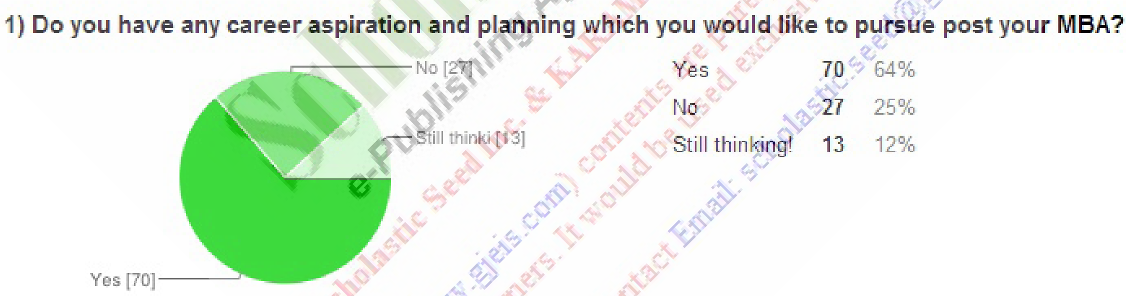
A included people in the age group of 21-25 with numbers as high as 101(92%) and B included people in the age group of 26-30 with strength of 9(8%).The data is based on the availability of respondents during the time of survey.

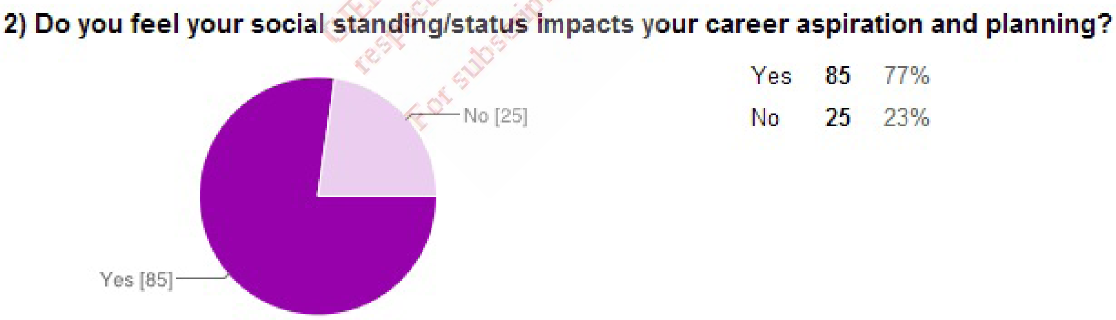
5.1.3 Qualification

The sample was distributed amongst students pursuing graduation, post-graduation, and others. Others include HR professionals from the corporate sector where the researches have taken enough thoughts and inputs to verify the authenticity of the findings. 30% of the respondents were graduates, while 67% were postgraduates and remaining 3% were from other streams.

5.1.4 Monthly Household Income

About 16% of the surveyed population come from the families in the monthly income group of 10-30 thousand per month, 35% were from the income group of 30-50 thousand per month and the remaining 49% were from 50 thousand and above. This indicates that most of the MBA aspirants generally belong to families with decent income group of 50 and above thousand per month.





5.2 Survey Results

Out of the total population surveyed a majority 60 % confirmed that they wanted to pursue MBA after graduation, while 12% were not sure about this progression and the remaining 25% said that they were not keen to pursue MBA degree.

The above figure depicts that a majority 77% of the population contacted feel that their social status/standing has a major impact on their career aspiration and planning while the rest 23%siad that it does not have any correlation with their career plans aspirations.

Out of the total people surveyed, 59% were willing to compromise with their career aspirations and plan to take care of their family or financial issues while the rest 41% answered otherwise.

A majority 59% of the total population surveyed said that their career aspirations would change with change in time and the remaining 41% confirmed that their career plan and aspirations would remain unaltered with time.

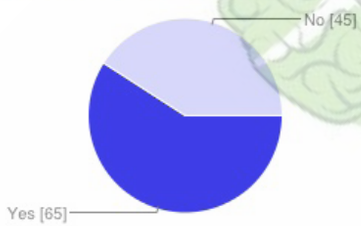
When it came to deciding on career plans, the population surveyed had a mix response.25% decided in consultation with other people, 36% made their own independent choices, 38% through their experience and observation and the remaining 1% indicated the other influencing factors when it came to their career plans.

Out of total population surveyed, a major 75% said that the high school education has been a crucial factor in their decision pertaining to career goals. The remaining 25% of the above denied any influence of the above factor on their career goals.

33% of the population surveyed looked for brand ,28% looked for package and 33% looked for designation while taking up an employment. The remaining 5% looked for other attributes from their potential employer.

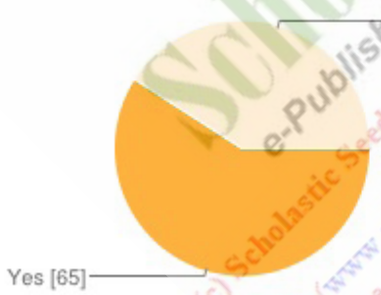
89% of the respondents were flexible to modify their career aspirations to suit the need of the hour and the rest 21% denied the same.

3) Will you be willing to compromise with your career aspiration/planning in case of any family/financial issues?



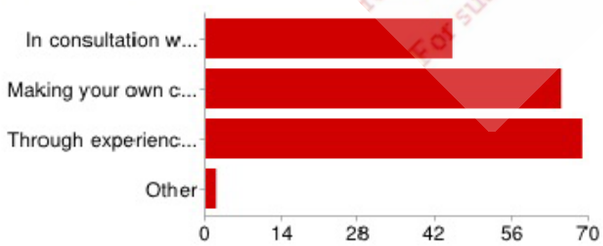
Yes	65	59%
No	45	41%

4) Does your career aspiration change with changing times?



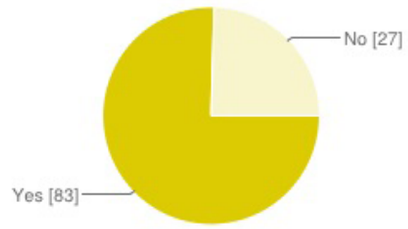
Yes	65	59%
No	45	41%

5) How do you make your career plan?



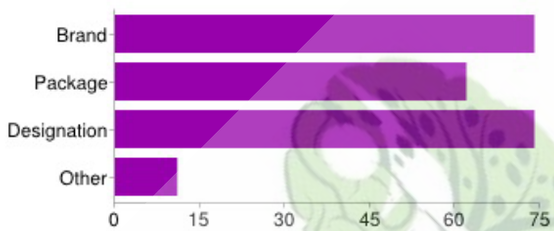
In consultation with people	45	25%
Making your own choice	65	36%
Through experience/observation	69	38%
Other	2	1%

6) Do you feel that high school education plays an important role in influencing your career goals?



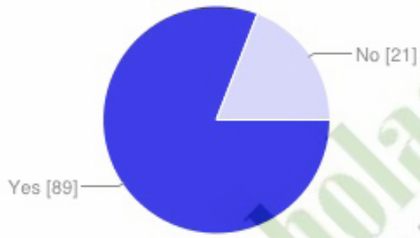
Yes	83	75%
No	27	25%

8) What do you look for/expect from a potential employer when you initially decide on taking up a job?



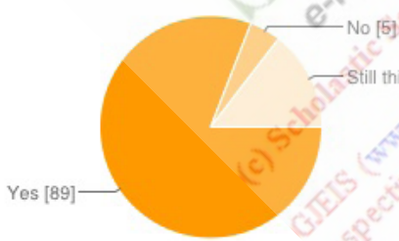
Brand	74	33%
Package	62	28%
Designation	74	33%
Other	11	5%

9) Are you flexible enough to modify/alter your career aspiration as per the need of the hour?



Yes	89	81%
No	21	19%

10) Are you absolutely confident about the career path you have chosen for yourself currently?



Yes	89	81%
No	5	5%
Still thinking!	16	15%

89% of the population surveyed were confident of their choice of career path while 5% were not confident .15% of the sample were still thinking of their career decision.

6. Conclusions

The research conducted signpost that student's career aspiration and planning are based on several factors apart from his personal choice, for example, his social standing, family situation, his skills and knowledge level, etc. The above survey and data analysis also indicate that gender does not play a major role in determining the career graph of an MBA graduate. The Social standing/ status of a management student does not influence the career choices. Furthermore, individuals are flexible to alter their career choices in case of any family/financial issues. It has also been observed

that brand and designation are of utmost importance for a student to favor a recruiter, followed by package and other factors like timing, location, etc. It is imperative to pay attention to High school education as it plays a major role in influencing the career choice of a student.

At the same time, the employers must also understand the students they hire/ wish to hire in terms of what their expectations are and if they are a perfect fit in their organization. The employer must also make the organizational goals clear to the candidates. So, there should be clear understanding between the students and the potential recruiters about each other and measures should be taken to mitigate any impediments to ensure a smooth sailing career for the fresh MBA graduate and a fruitful business opportunity for the employer.

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Future Technology and Service Industry: A Case study of Travel and Tourism Industry

Arvind Kumar Dubey*

Assistant Professor, IGNOU, School of Tourism and Hospitality Service Management (SOTHSM), Delhi, India; arvindkrdubey@ignou.ac.in

Abstract

Travel and tourism the most vibrant segment of service industry is backbone of almost 35 countries and each country desires to augment its world share for the reason that it is the best source of earning foreign exchange. Today's world civilization is technology savoir-faire and altering accordingly at a fast pace. In future, Space Tourism and Ocean Depth Tourism will become new-fangled precincts of movement. *Virgin Galactic, Space Adventure Company, World View, Google Lunar, Astrobotic, Blue Origin, SpaceX Project, Sierra Nevada, Orbital ATK, Finnair* etc. are in the pursuit of Space Tourism Development. Space Hotels will be fashioned and populace will go on Moon for enjoying their holidays. In future, with the help of smart, sensible and talking computers search for extra-terrestrial intelligence will be improved. In upcoming year's new pink tourist, personage regular travellers, back packers, older generation tourist and couples travelling farthest areas/sites will raise new forms of tourism and tourist sites. Upcoming tourist will become *negligent, informed, urbane, self-governing, impatient and thrilled*. Smart phone and Social Media will turn out to be guide, escort and agent. Make use of Space Technology in transportation network will revolutionized mobility of tourist. Tour planning will be grandee, open and exceedingly personalised. The periphery among leisure and exertion will be dissolved by digital technology. Tourist will appraise every aspects of tourism on interactive experiences base (personal and others) and social media opinion will matter a lot. Future tourist will be highly conversant, elegant, knowledgeable, refined, ordering online, anticipate speedy response and well linked to social network. In view of that services and training of service support staff will renovate. In future *CSR, Crisis Management, Environmental concern, Ethics, Legal Rights and Contact less payments* will be very high-flying.

The current paper is the study of upcoming travel and tourism blueprint and type of technology going to decide world tourism trend.

Keywords: Digital Technology, 3 D Printing, Maglev, Space Tourism, Space Hotel, Social Media

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1. Introduction

The service industries also called "tertiary sector" entail the prerequisite of services to businesses as well as to ultimate customers[1]. Such services incorporate travel and tourism, legal, doctors, hospitality, entertainment, food services, distribution, transport, retail, accounting, mechanic, plumbing (tradesman ship), computer services, restaurants, etc. Here business is not producing principal physical merchandise but first and foremost earning revenue through intangible services and products. Travel and tourism the most vibrant segment of service industry is backbone of almost 35 countries and each country desires to augment its world share for the reason that it is the best source of earning foreign exchange. This industry comprises transportation network, accommodation, entertainment, retail, shopping, souvenirs, guiding, escorting, travel agency, tour operators, security, telecommunication, institutional and government agencies. This trade is exceptionally susceptible to technology and we recognize that industrialisation and swift transformation in technology has impacted all characteristics of world happenings.

Today's world civilization is technology savoir-faire and altering accordingly at a fast pace. Every aspect of world's accomplishments will execute in external and internal environment like *C-PEST, Legal and Ethics*. As per *Robinson* our travel and tourism(service industry) upcoming will be predisposed by certain factors like New Forms, Market variables, Globalisation, Virtual and Augmented Reality, Crisis Management, Slow-Tourism and New-Colonialism[2].

2. New Variables

In upcoming year's new pink tourist, personage regular travellers, back packers, older generation tourist and couples travelling farthest areas/sites will raise new forms of tourism and tourist sites[3].

*Author for correspondence

The social structure, family value system and standard of living will revolutionize and a travelling family may include step parents/ Children's, same sex parents with poles apart requirements and interest. Travel and tourism as a service industry will have to congregate need and wants of older age group and children's simultaneously. Information revolution (24 x 7), social media, Internet sources etc will transform accepted wisdom and understanding foundation of tourist. Everything will be managed, booked and searched with fingers merely. Upcoming tourist will become *negligent, informed, urbane, self-governing, impatient and thrilled*. Smart phone and Social Media will turn out to be guide, escort and agent.

The upcoming travel and tourism phenomena is going to be determined by expansion of middle class particularly in some countries like BRICS countries (Brazil, Russia, India, China etc.) along with Indonesia and South Korea .India's and Chinese outbound tourism will remodel the growth and geography of world travel pattern[4].

Tour planning will be grandee, open and exceedingly personalised. The periphery among leisure and exertion will be dissolved by digital technology. Tourist will appraise every aspects of tourism on interactive experiences base (personal and others) and social media opinion will matter a lot. Future tourist will be highly conversant, elegant, knowledgeable, refined, ordering online, anticipate speedy response and well linked to social network. In view of that services and training of service support staff will renovate. In future *CSR, Crisis Management, Environmental concern, Ethics, Legal Rights and Contact less payments* will be very high-flying.

Safety and security will remain leading apprehension owing to terrorism which will turn out to be a fact of life. Future destination managers will have to put up for sale inspiration and experiences as a replacement for physical resources. End user will desire variety of food permutation which has wellbeing information and holiday-maker will make an effort to involve self in food production process.

3. Information Technology

In future, tourism interpretation, consciousness and judgment making will be inclined by virtual and augmented reality. Prior to visiting several destinations tourist will experience its ambience, bordering and escalation with the help of Touch Mobile having *Feeling Sensors*. Destination sites, its way etc will be explored by means of miscellaneous software/technology such as *Google Earth, Web 2.0 Platform, and Satellite Technology*[5]. These touch mobiles will be used to feel animal's skin, can hug a tiger, can feel fish (*Interactive Experience*) etc. virtually prior to visiting any nature reserves. Destination's code of conduct and voluntary services at sites will boost satisfaction level of tourist. Computer expertise will be used to fabricate virtual substitutes of endangered species/replica of destination and artefacts. Tourism and entertainment will be amalgamated by creating synthetic destinations with provision of leisure, lodgings, shopping, catering and activity under one cover.

Internet, Social Media, Mobile Computing, Clouds, Smart Phones with travel APPS, GPS Technology etc will manipulate tourist decision building process and promotion of travel services will be highly reliant on World Wide Web/ net. Hybridization of human being and artificial intelligence will take care future tourist service requests and Destination Management Companies and marketing organisations will have to generate online distinctiveness in order to survive future cut-throat competition. Innovative substance/material/technology like Graphene, Nano, and Intelligent and Multifunctional furniture will decide model and architecture of tourism resource development. Upcoming know-how and websites like Google, Google (Earth, Maps, Street, Glass), Wearable Computers, Nike, Fuelband, Oakley Ski Goggles, Ski-europe.com, Travelocity.com, Tripto, Tiscover.com, Tripadvisor.com, Tripit.com, Tourism futures, Smart Tourism, Smarter Planet etc will persuade tourist activities, fashion and demand (Pierre) 6.

Future tourist will utterly reliant on Information and communiqué for purchase, consume and experience. Consumer generated media will decide business factors of destination and tourism professionals will covenant through social media ethics.

4. Extreme Frontiers of Travel and Tourism

In future, Space Tourism and Ocean Depth Tourism will become new-fangled precincts of movement. *Virgin Galactic, Space Adventure Company, World View, Google Lunar, Astrobotic, Blue Origin, SpaceX Project, Sierra Nevada, Orbital ATK, Finnair* etc are in the pursuit of Space Tourism Development. Different Space Companies will explore and extract rare materials from Asteroids. Space Hotels will be fashioned and populace will go on Moon for enjoying their holidays. With the help of Carbon Nano Tube/Ribbon/Cable an elevator will be erected in Space for Space Visit and Space Walk. The frame of mind, accepted wisdom, commotion and behaviors of space tourist will revolutionize by bearing in mind thin layer of earth environment and boundary-less earth. In future, with the help of smart, sensible and talking computers search for extra-terrestrial intelligence will be improved. Space Tourist and Astronauts will use 3D Technology in Printing for producing essential articles/goods and foods during space walk/stay.

Virgin Galactic has designed space travel with the help of *White Knight Two* and *SpaceShip Two* Shuttle but an accident in year 2014 (Pilot Michael Alsbury killed) strained company to amend the strategy. *SpaceShip Two* uses an exclusive method for safely re-entering the Earth's atmosphere. *SpaceShip Two's* cabin has been planned to maximize safety and comfort — it is the only space rocket in history designed unequivocally to optimize its passengers'experience. *Virgin* is not the solitary concern who is investing millions of dollar on space travel/walk but *Elon Musk's SpaceX Project* and *Jeff Bezos Blue Origin* are also aiming in identical course. At hand some companies like *Sierra Nevada* and *Orbital ATK* are researching in space payload movement. *Google* has funded $ 1 billion in *SpaceX Programme* and the company has landed a rocket after blasting into low earth orbit. *Blue Origin* also achieved identical reverse landing. They all are researching in reusability of rocket programme for multi- planetary space travel/walk. Astrobotic company is researching possibility for extracting rare materials from extra territorial objects and Google Lunar XPrize has announced a prize of $20 million for moon mission. Worldwide nearly 18 teams are participating in making a rover who can move on Moon (at least 500 m) and record videos.

Make use of Space Technology in transportation network will revolutionized mobility of tourist. This will make possible airliner to attain hypersonic speed and to a great extent superior range without stops and refuelling. The better comfort level in enhanced aircraft configuration will be a delightful experience in itself rather than a tiresome voyage. *Vertical take-off and landing aircraft (VTOL)* will be used for short-haul journey[7].

PAL-V Europe NV (Dutch company) has tested a '*personal air and land vehicle*' which is an amalgamation of private car and gyrocopter8. These flying cars are capable of attaining speed up to 180 km/hour and have range in between 350 to 500 km and a few types can cover up to 1200 km. They can manoeuvre on ground and within air by means of petrol and biodiesel or bio ethanol. They comprise potential of landing everywhere, have trouble-free control and cannot stall. Various Governments are planning to construct '*digital freeways*' by using GPS technology. The entrepreneur Elon Musk (*Founder of SpaceX, Tesla Motors and co-founder of Pay Pal*) has given a visualization of solar power-driven, speed of sound, self-propelling means of transportation called "*Hyper Loop*" (Tube with capsules). It will connect cities in the range of 1600km and would be constructed over ground, powered by top solar panels and can attain speed of 1200 km/hour.

A different hallucination of future air travel is anticipated by Finnair. The concern is working on plan of two aircraft, one cruiser, and an aircraft for everyone. Concern is also working on design of Space Hotel and Space ship. A brief is given below9

4.1 Finnair A 600-850m

- For long haul route, Zero-emission aircraft.
- Material is Nano-ceramic, have Intelligent wings and seats (Internet ,satellite links and display)
- Entertainment and wellness services.
- AV windows with Zoom able views of Sky and Earth.
- Seat is adjustable according to weight, height and age of tourist.
- Seats have capability to measure pulse rate, blood pressure and temperature.
- Customer can receive light massage and heat treatment
- Seating Capacity:- 600 to 850
- Speed :- 4.5 mach
- Range :- 26,600km
- Power:- Solar Energy

4.2 Finn air A600-850 (HD 1080P)

- For short haul routes, can take off vertically
- Half of passenger area has cabins for 4 people with satellite internet links.
- Have either real window or AV window
- Vessel restaurant has shows, can be seen on television
- Seating capacity :- 600 to 800
- Speed :- 890 km/h
- Range:- 9600km

4.3 Finn air A 1700-2400 Cruiser (HD1080 P)

- *Can glide, take-off vertically and can land on water*
- *Have one to 4 person cabins with toilet, shower, internet and Satellite links*
- *AV windows with zoom able views. Windows can act as TV*
- *Restaurants organized shows.*
- *Vessel has hologram theatre, restaurants, beauty parlor, bars, meeting rooms, , first aid station, gymnasiums, shops, quiet room etc.*
- *Seating capacity :- 1700 to 2400*
- *Speed: - 160-750 km/h.*
- *Range :- 21,600 km*
- *Power*:- Solar cells

4.4 An Aircraft for everyone (HD1080p)

- Combination of aircraft and helicopter
- Low Cost
- Rotor Blades adjusted by computer (length adjusted in between 1.30 to 3.60m)
- Seating Capacity :- 3
- Speed :- 240 to 320 km/h

- Power:- Solar Energy and hydrogen

4.5 Space Hotel and Service Ships

- Space Hotel will be situated at an altitude of 500 km
- Orbiting Earth in 9 hours
- Average stay for 4 days , Tourist will be in weightlessness
- Facilities:- Restaurants, recreational area, auditorium, health station, Greenhouses
- Capacity:-450 Beds

4.6 Space Service Ships

- Move directly from earth to space hotel
- No Food and Drinks on board
- Seating capacity:- 100-140
- Flight Time:- 20-25 minutes
- Frequency :- 3-6 Flights per week

Likewise Ocean beds will be explored and Ocean hotels will be created. In a short time we have much supplementary information concerning space environment but ocean deepness is still protracted as uncharted areas. Deep Ocean walk, Ocean residential complexes, floating residential complexes with all amenities and services and enormous capacity Ocean cruises will appear in picture. Future transportable luxurious living model is projected by Freedom Ship. It's a gigantic maritime vessel would abode suburban complexes, shops, hospital, schools, library, banks, hotels, casinos, restaurants, amusement, offices and light manufacturing units etc. It will cruises most of the coastal regions and occupants be able to trip land region by means aircraft, hydrofoils and small ferry services. This floating "Community on Sea" has 4500 feet length, 750 feet width and 350 feet height (25 stories).

4.7 Mobility and Power

Rail voyage will remain mobility spine due to its carrying capacity, speediness and superior power efficiency. Upcoming railways will be based on "*Magnetic Levitation (Maglev) and hyper loop technology*"[10]. Maglev technology was developed in Germany and current soaring speed train is operational in Japan which is touching a speed of 430 Kph. Japan is in the process of achieving speed of 500 Kph by using technology of " *Superconducting Magnetic Levitation, SCMaglev".* Japan will connect Tokyo to Osaka with SCMaglev trains by the year 2027. France has created a world speed record of 574.8 Kph with TGV's Alstom.

Hyper loop concept is based around straight vacuum tube with capsule for movement at a speed of 1220 km /hour. It will be powered by battery and solar cells. In China, Dr. Deng Zigang is undertaking research on "Evacuated Tube Transport ETT" systems which might permit HTS Maglev trains to attain tremendous soaring speed of 3000 km /hour11. It might be useful for armed forces and space launch agency. However high speed trains may create health risk like motion sickness, discomfort, rapid acceleration and de-acceleration, vision disillusion, and fatigue etc12.

Future road will be smart, intelligent, interactive, self illuminated and pedestrian friendly. Roads may have netways system (pods movement), elevated ways (on pillars), earthway (U shaped below or above ground level) 13.

Road material may be concrete mixed with bacteria to heal cracks and roads may function like solar cell to power electric poles and moving-intelligent-driverless car. They will glow in dark; have interactive light system, and wind/solar power-driven light[14]. Future roads may be made by high density glass material containing solar cells for powering driverless car.

Elon Musk's Tesla Company and Google are researching for driverless, artificially intelligent, and interactive cars. These cars will park automatically, offer pick up and drop services, navigate registered destination with the help of GPS technology and provide crash-free journey. Laser, Radar and Cameras will be used to make them artificially intelligent who can communicate with path, surrounds, smart phones and fellow cars. Sunlight, battery and electricity will be core supply of power. Without human intervention car will take shortest and traffic congestion free route to reach destination. On the way in road expedition some apps will reveal state of onwards journey weather conditions i.e. *temperature, snowfall, humidity, cloud cover, wind direction and speed, rain etc.* with the help of total EDD " *Enhanced Data Display*" technique[15]. It will track upcoming weather alongside the road trip.

In future major power supply source will be "Hydrogen fuel cell, Nuclear Fusion, Wind, Ocean, Biofuel Butanol, Microbes Biofuel, Waste, Thermo-Chemical Solar Power, Solar Wind and Space based Solar Power"[16]. Solar energy will be harvested in space may be on Moon etc. and transmitted back to earth.

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Distance Education: How Much Distance? The History, Opportunities, Issues and Challenges

N. Venkateshwarlu[1]*, N. V. S. Raju[2] and M. Pradeep Kumar[3]

[1]Associate Professor in Mechanical Engineering, School of Engineering and Technology IGNOU, New Delhi, Delhi, India; nvenkateshwarlu2008@ignou.ac.in

[2]Professor, Department of Mechanical Engineering, JNTUH, Jagityal, India; enviousraju@gmail.com

[3]Assistant Professor, Department of Mechanical Engineering, KITS(S), Karimnagar, Telangana, India; pradeepjnkr@gmail.com

Abstract

Distance learning has become a permeating and growing phenomenon. The increased demand for education showed that there is a greater need among working adults to continue their education. However, most adult workers are not able to continue their studies using the conventional means due to their work and family commitments. Distance education provides the flexibility for them to continue their studies. Moreover, the distance education is mainly intended for the people who can't be able continue their education due to the geographical distance, economical status, cultural and traditional reasons, still there exist a large DISTANCE between the these people and the distance learning institutes in making aware of the programs, courses and in bringing effective outcomes. This paper attempts to screen out the distance between people and the distance learning institutes. Also evolution, statistics and various programs of distance learning education (DLE) have been critically reviewed. Finally, the history, opportunities, issues and challenges of DLE have been analyzed and some recommendations have been proposed in order to make the program effective. This paper brings out the positive suggestion to enhance the pass out ratio by implementing the proposed model.

Keywords: Counsellors, Distance Education, E-Learning, Open Learning

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1. Introduction

Due to the increased demand of educational needs, the different educational systems have arisen, such as formal education system and open education system. Formal educational systems provide education to the people in confined time period and in confined area. It has institutional infrastructure, where teacher and student interact each other in knowledge transformation process. But in open education system, educational opportunities are provided to the learners at any time, any phase and at any distance. Distance education and open education are the terms used inter changeably. Open learning system involves his/her choice of place and time for making availability of learning. While distance education refers to the process of learning in which there is spatial and usually temporal distance between the teacher and learner. In the distance education mode learners can enroll in any programme and will be provided all the educational requirements so that they can study or learn at their own phase. In this open education system learners are self-centric, self-motivated and departed away from the teacher. Distance learning brings an access when the learners and source of information are separated by distance and time. It has two main elements, i.e., distance teaching and distance learning. In distance teaching all the educational institutions has to deliver and design lectures to the registered students so that learning may occur.

2. History of Distance Education

On the globe, the first university offered distance learning degree is University of London in the year1858 as a course under external program. Now this program is popular known as University of London International Programs which includes PG, UG and diploma degrees created by colleges such as the London School of Economics, Royal Holloway and Goldsmiths. University of Chicago's first president implemented the concept of extended education and in 1892 he further fostered the idea of correspondence school courses to promote education. In Australia, the University of Queensland established its Department of Correspondence Studies in 1911. In India, University of Delhi introduced the first correspondence courses in B.A degree in the year 1962. Later in 1968, the Punjab University and University

*Author for correspondence

of Rajasthan launched correspondence courses by opening institute of correspondence and continuing education. During 1970's the Osmania University, Hyderabad was having a programme of BA external examination. This programme was having very high demand from all over India. Later this programme has been scrapped. Then it has got a new name of education system i.e., *"Correspondence Education"*. In this mode learners used to provide the study material in the form of photo copies or Xerox copies of subject related study materials. This type of education system has got very good success in Technical Education as well as non-technical education system. Diploma/Degree programme in engineering for employed persons have been conducted successfully for decades along by JNTU, Hyderabad and School of Engineering and Technology(SOET), IGNOU, New Delhi. Still such type of programmes AMIE's section A and section B are successfully conducting and has got equivalence of engineering diploma and degree.

Similarly Indian Institute of Industrial Engineering (IIIE) Mumbai conducts its graduate ship programmes since long decades ago which has equivalence with B.E. in Industrial Engineering of regular university degree. At this computer era, most of the formal educational universities and institutes, distance education universities are offering online learning programmes. A few universities have designed community colleges and convergent programmes, according to the need of the particular society. But still there exists a gap between the learners and distance education institutes.

The major objectives of DE system are:

- Enhancement of higher education to large sections of the people, particularly to the disadvantaged grouped people living in remote and rural areas, working people, women and adult learners etc
- To provide an opportunity for up-gradation of skills and qualifications for employed people; and
- To develop education as a lifelong activity to enable persons to update their knowledge or acquire knowledge in new areas

3. Literature Review

Framis Glasgow (2011)[4], suggested that technical and vocational courses are very much essential for community development. He further emphasized that more respondents are looking for basic qualifications such as 10th, 12th and graduation level academic programmes to improve their academic qualifications. Sushmita Mitra (2010)[15] discussed about model of partnership in education and its impact on the open schooling performance in India. She viewed that educational institutional partnerships will have numerous advantages, such as sharing of workloads, avoiding duplication and cost savings, nears to the learners etc; and suggested that partnerships in education should be encouraged and strictly implemented. A Mishra et al (2010)[1] observed that the particular programme student enrolment status is good but the passing percentages are very low. Based on the feedback of the students, it is evident that, the services provided by the open university is good and excellent but more F2F interaction of counsellors, regional centre staff and study centre staff with students should be increased to enhance the pass percentage for a particular programme. Murugan Krishan Pillai (2011)[9] identified and compared quality indicators in campus education with ODL education. The author suggested that ODL institutions should identify their quality indicators and work up on them to improve the quality of support services, which will enhance the student's satisfaction level and will enhance the quality standards of ODL instaurations. Moumita Das and Chinmoy Kumar Ghosh (2011)[8] explained the importance of capacity building of counselors of the ODL universities. They also felt that the effective role of academic counselors is very much important for counseling the learners in ODL institutes. The authors expressed their view that there is a need of developing five capacities to the counselors, such as inquiry, creativity and Innovation, Technological capabilities, Entrepreneurial skills and Moral leadership. The counselors who acquire the above capabilities will perform better in counseling learners in DE institutes. Ashok K. Gaba and S.S. Sethy (2010)[2] conducted research on learning perception on ICT's in Open University education system. In this paper authors clearly explained which are the ICT's and how these ICT's are useful to the Open University students. They also found that the effectiveness of use of ICT's in Open University education system. This research was conducted by designing a questionnaire methodology to get the case information about the knowledge the open university students having on ICT's and their effective use in open university education system starting from taking admission in a programme to till completion of the programme. This study was focused on Open University learner's perception on advantages and disadvantages of ICT's. Won Kim, Timothy K. Shih, (2003) argued that network infrastructure and computer facilities must be combined for the successful functioning of distance education. They also stated the need of social challenges in distance education. They pointed out that, motivation is the key factor for the success of distance learning. Manishankar Roy (2015)[5,16] in a paper "some perspective of open and distance education in India" examined the need, growth and development of Distance and Open Education in India. Manzoor Babu.V (2012) from a study concluded that, distance education is lagging in providing adequate student support services. He also argued that the unitization of existing support services by the students is poor due to the lack of awareness or time. But the utilization of study materials and contact classes are good where usage of library

and multimedia services by students are worse. Sadhasivam Panchabakesan (2011)[12] has made a point that the entire distance education students should be brought on one platform. He suggested that for in the effective teaching to improve the interaction between instructors and students advance technologies and multimedia should be used. Further, he suggested that all the distance education institutions should have to strengthen their distance-learning strategic plans by identifying and understanding distance-education trends for student enrollments, faculty sup- port, and larger academic, technological and economic issues.

4. Evolution of Distance Education System in India

The references of distance education can be seen during the Mahabarat period (Dwapara yuga), where Ekalvya and Karna learned Dhanur Vidya (Archery). Since then, the history has witnessed several such situations but has gone unrecorded. However, through the last five decades, with the increased demand and need for higher education with the changing base of knowledge levels, most of the people started opting for both earning and learning through distance education. Recognizing this need, The University Grants Commission (UGC) proposed in its report for the year 1956-1960 that planning for part-time colleges, correspondence courses and conduct of external degrees should be included. The technocrats suggested that the institution offering corresponding courses should offer greater flexibility, economic viability and innovative methods of imparting education. The committee so formed for the purpose by the government of India has suggested that correspondence courses in India should be administered by the universities only and in the first instance, by one University, viz., the University of Delhi as a pilot project. The following is the array of birth and growth of distance education as shown in Figure 1.

- Distance education was born at university of Delhi's school of correspondence courses and continuing education in the year 1962.
- During 1970s there was rapid growth and widespread of the correspondence education system in India, through more number of universities under the title of corresponding course.

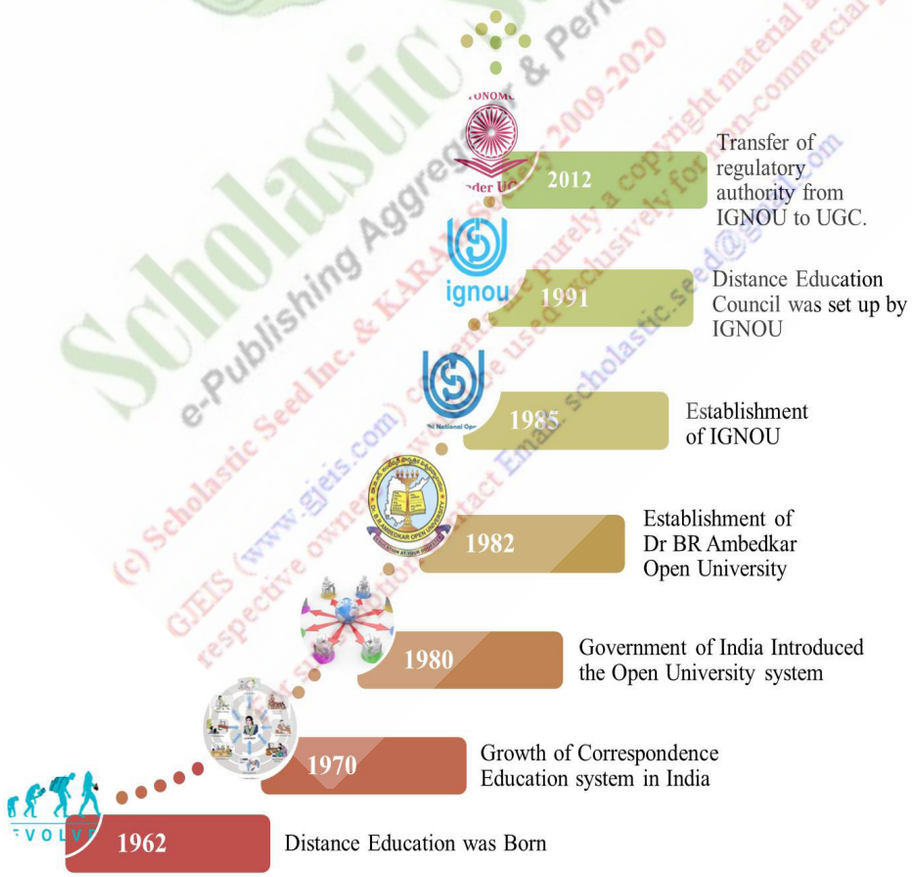

Figure 1. Evolution of Distance Education System.

Table 1. Course wise enrolment for distance education all over India

Level	2011-12		2012-13		2013-14	
	Male	Female	Male	Female	Male	Female
Post Graduate	772328	531536	557691	534556	638918	638703
Under Graduate	1213524	785429	2212071	940575	1335710	1018988
P.G. Diploma	44661	18003	57672	22556	40299	21789
Diploma	70580	45595	80136	46730	81278	48957
Certificate	37231	38671	45773	51684	50009	55380
Integrated	1523	478	297	92	43	20
Total	2139847	1419712	2013065	1596193	2146257	1783837
Overall Total	3559559	3609258	3930094			

- It a short period, the distance education system gained its popularity due to affordability, convenience and access.
- Nevertheless DE system was not recognized to its expectations owing to the merits of conventional education system.
- After a good number of suggestions and alternatives, the government of India introduced the Open University system in the 1980s, with a motive to enhance the opportunities to Indian's in higher education particularly for whom the access was difficult or impossible such as those living in remote and rural areas, working people, women and other adults who wish to acquire and upgrade their knowledge and skills through studies in various fields.
- Thence, the ministry of human resource development gave prominence to an Open University system in its national policy on education (NPE) 1986.
- The establishment of Dr. BR Ambedkar Open University Hyderabad, opened a new chapter in the distance education system in 1982, followed by the establishment of Indira Gandhi National Open University (IGNOU) at the national level by the Act of Parliament of India in 1985.
- The concept of open education system was well accepted by many states of the country which led to opening of two more open universities namely Nalanda Open University (NOU) Patna, Bihar in 1987 and Vardhman Mahaveer Open University (VMOU), Kota, Rajasthan.
- Subsequently, Yashwantrao Chavan Maharashtra Open University (YCMOU), Nashik, Maharashtra has emerged in 1989.
- The Distance Education Council (DEC), so formed by government of India took several initiatives for promotion, coordination and maintenance of standards of open and distance education system in the country. DEC has developed guidelines for regulating the establishment and operation of ODL institutions in the country.
- India has one of the largest DE systems in the world, second only to China. The categorization of DE system is shown in the Figure 2.

5. Statistics of Distance Education

The Universe for Open and Distance Learning Institutes (ODLIs) in India comprises 249 institutes, out of which 176 institutes are currently offering Distance Education Programmes. Distance enrolment constitutes 12.5 % of the total enrolment in higher education of which 39.9% are female students as per statistics in all India survey on higher education (2011-12). In order to analyze the enrolments of distance education for various programmes, All India survey report for higher education for the year 2012, 2013 and 2014 was taken into consideration. Also category wise intake was taken for the same years from planning division reports of IGNOU the Peoples University are shown in Table 1 and Table 2.

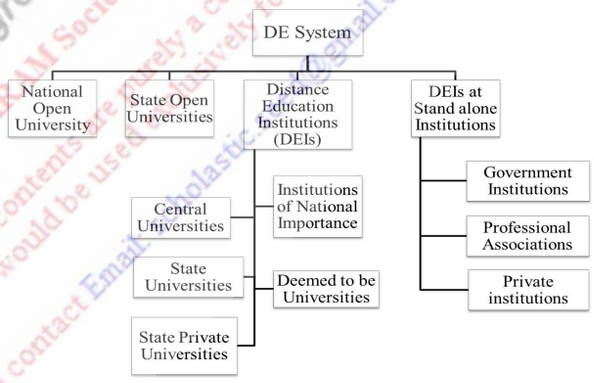

Figure 2. Classification of DE system in India.

From the above statistics, it is evident that the demand for distance education is increasing day by day of which male students play a major role. There is more demand for the programs which come under UG level and PG level. Whereas courses like diploma, PG diploma and Certificate course have found to be moderate in enrollment. However an integrated course through distance education has showing a down fall in the count of enrollment as seen from year to year. The statistics was also shown for the enrollment through category wise. Male category

students are found to be increasing year by year as compare to the female category students. When coming to the rural and urban background students, the enrollments of urban category students following an increasing trend than the rural category students. When the analysis of enrollments made between employed and unemployed, unemployed students are contributing a major in the overall distance education enrollments and also increasing positively.

Table 2. Category wise enrolment for distance education in IGNOU

Enrolment	Enrolment Year Wise		
	2013	2014	2015
Male	205980	219667	227117
Female	171482	178683	191165
Urban	206854	213864	232740
Rural	153113	162677	169961
Employed	98260	99370	113428
Unemployed	279254	299091	304998

6. The Opportunities, Issues and Challenges of DE system

6.1 Opportunities of DE system

Open and distance education institutes have the potential to enhance the employability skill and subject by providing quality education. Most of the students pursuing their studies through distance education mode are unemployed. Majority of the students concern after the completion of degree is employment opportunities. Every student will invest money, time and energy in pursuing a course, so he definitely expects a job opportunity after the completion of his/her graduation.

As far as placements are concerned, statistics and surveys shows that students undergoing their studies through distance education mode has very good opportunities in placements with a good salary package. During a study, it was understood that one of the top most IIMs in india IIM Kozhikode students average salary package offered to MBA graduates varied between 11 lakh to 19 lakh. Job opportunities in distance education mode from an open university like IGNOU also offer good packages as IIM graduates. Considering the financial expenses, distance learning programmes offered by open universities like IGNOU or Dr B.R. Ambedkar Open University, then the placements offered by them are actually good returns on the investment. The opportunities of DE systems may vary for freshers and professionals. For professionals Distance learning may lead to better careers and promotions through acquired skill-sets. Whereas for fresher's Placement cells of distance learning universities may help with job opportunities.

7. Issues of DE system

Drastic change has taken place in the last decades in the field of education sector. The use of multimedia and technology have increased tremendously in the education field where a teacher can adopt various means of these for the effective delivery of his/her lecture. Distance education in India has started in the past 1960's with an aim of providing education those who can't continue their studies due to financial or family commitments. Today the scenario has changed where students from different background whether it may be employed or unemployed, married or unmarried, male or female, rural or urban, rich or poor are opting distance education. According to **Manjulika S and V Venugopal Reddy (1996)**[6], the compound growth rate of enrolment in distance education programmes was 15.7 per cent per annum during the period 1982-83 to 1991-92 as compared to 4.1 per cent in the formal education system. The reasons may be various viz., improving the qualification, distance constraint, family restriction, need of degree for employment etc., no matter the reason is, the distance education institutes must fulfill student goals and objectives. As per the statistics of DE, there was an enormous progress per year by year in the enrolments for various courses, but as the numbers of enrolments are increasing, there are more issues associated by distance education universities and institutes that lag with conventional (regular) education institutes. In order to notify these issues, a general survey has been conducted by inquiring the students who have been registered their courses in various distance learning institutes and also a study was made by collecting the literature available in journal and web are shown in Table 3. Based on these, some major issues faced by the distance education universities and institutes today have been listed. Also a grid has been developed, to indicate the issues as per the percent wise based on the survey made by inquiry. Most prominent issues are listed below.

- One of the major issues faced by the distance education institutes are tremendous downfall of pass percent.
- Another fortunate thing found is in recognition of distance education degree certificates. Nonetheless, most of the private and government sectors are not considering the degrees issued by distance education universities on par with degrees
- The dropouts being more due to many reasons like lack of student support, face to face interaction etc., which may detriment the fame and name of the institution and causes to reduce the student enrolments.
- Distance education institutes lag in designing the study materials for the easy understanding of students.

- The level of understanding and subject knowledge of students enrolling in distance education is very poor.
- Unavailability of faculty to the students in required time.
- Absence of Laboratory and practical work in the curriculum.

Table 3. Percentage of Issues according to the survey results

Sl. No	Issue	
	Improper service and support by DE institutes to students	12%
	Facilitating easy provision of degree by private regular institutions	6%
	Assessment of student's performance	5%
	Dearth of awareness on multimedia	2%
	Lack of enhancement of technical skills in students	1%
	Improper design of study material	8%
	No face to face interaction with teacher	24%
	Lack of Teacher's concern on student	19%
	Confusion of rules and regulations of universities	1%
	Dearth of teacher's support	22%

8. Challenges of DE System

In the field of distance education, student services and support are vital. Today, DE system lags in providing adequate student support and services. Moreover due to the lack of awareness or matching time, students are not fully utilizing the existing support and services. All these have significant impact on making distance education quite unsuccessful as an alternative channel for higher education. As the enrolments in distance education are increasing year by year, there are more challenges faced by the DE system. The foremost challenge is in minimizing the gap between the universities, administration staff and students. This can improve the level of confidence in the students for acquiring and getting the support, service and subject, which can also reduce the dropouts and can increase the pass percent to some extent. Another challenge is in bringing down the subject experts and senior faculty to reach out the students, so that students can have face to face interaction with the experts and can clarify their doubts. For this, all DE universities and institutes should engage some senior faculty from various universities.

The major difference between the conventional education system and DE system hide in providing the laboratory and conducting the practical work. Most of the distance education institutes prioritize and focus theory part and no practical works are included in their curriculum. This will substantially reduce the potential of the students, which can also bring a negative remark on DE institutes. Further, this may lead to make a considerable difference between conventional education system student and DE system student. The arrival of technology has also made many challenges to the distance education system. All the distance education institutes should make the optimum use of multimedia for the effective transformation of subject and to improve the interaction between the student and teacher. Also use of technology and e-learning based lessons can enhance student learning level. It should also bring a platform to provide student to student interaction

9. Modified Open & Distance E-Learning (MODEL)

After going through the various literatures, it was observed that, registration to a particular program was found reasonably well, but the outcome (results) of that program is not up to the mark. For analyzing various reasons for this cause, a survey has been conducted. After a thorough analysis, it was found that, a large gap has been dwelled between the students and study centers. Also the foremost issue faced by distance education institutes today is face to face interaction between the teacher and student. Counselling the students in making aware of the program and the subject is another problem faced by the distance education institutes. So focus has been made to overcome this problem. In this paper, a model has been developed to fill these gap and to ensure effective distance learning program. This paper brings out the positive suggestion to enhance the pass out ratio by implementing the proposed model.

Initially the interested counsellors (lectures) working in private and govt. institutions need to be registered with the distance education institutes along with the details like subject they dealt, experience, their free hours and education profile. After the process of compilation of these data, sorting will be done based on the specialization, subject and medium. It will be seen that at least three counsellor per each subject will be arranged. A separated portal has to be maintained by distance education institutes for this process. All the collected data will be linked up with this portal. During the time of admission process, each student will be provided an opportunity to choose the support of counsellors. If the students are willing to avail the facility of counsellors, they will be charged some liable amount and a login id with password will be provide upon which a student may login, if they need any support.

If a student needs any support, first they need to login in the institute portal with their user name and password given by the

institutes or study centers. After logging in, students can see all the registered counsellors along with their subjects dealt, free hours and profile. According to the requirement, of the student, each student can choose a counsellor and an appointment should be registered for that particular counsellor. When an appointment is registered by the student, immediate message will be sent to the counsellor's mobile regarding the appointment of the student. As per the free hours given by the counsellor, students can approach the counsellor during the specified hours for which each counsellor will be given remuneration. A model of proposed system is shown in Figure 3.

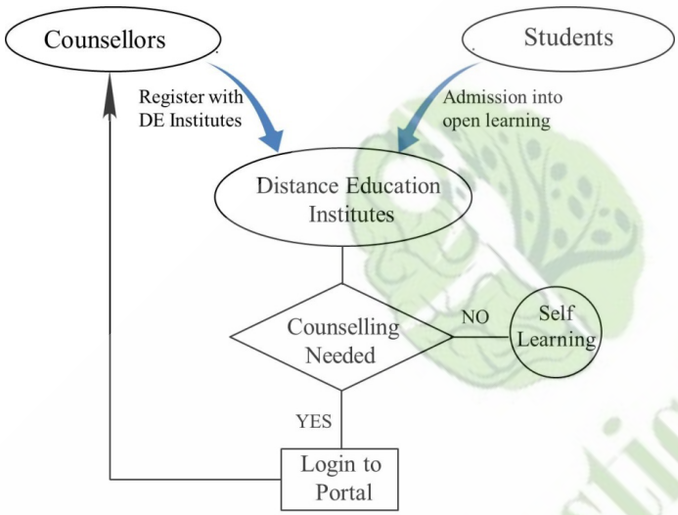

Figure 3. Block diagram of proposed MODEL.

10. Conclusion

Due to the advancement in the technology, students can attain their further qualifications and degrees by adopting various means of education, based on the constraints they have. By incorporating the technologies, the environment of distance education can be made wider in reaching the common people. This study brings out the ideology of distance education, its opportunities, issues and challenges. Initially the opportunities of distance education have been discussed followed by the issues and challenges of DE system. In order to list out these, various journals and literature have been reviewed. To make this study more reliable, survey was done by inquiring the students undergoing education through DE system. From this study it has become clear that distance education institutes lag in providing support to students in terms of subject and program. Distance education institutes should be able to use advanced real-time technologies to enhance the teaching effectiveness and to improve the interaction between counsellors (teachers) and students. In this paper a model of "Modified Open Distance E-Learning (MODEL)" has been suggested for making the distance education program more effective. Further, institutions will have to strengthen their distance-learning strategic plans by identifying and understanding distance-education trends for student enrollments, faculty support, and larger academic, technological and economic issues.

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Sustainability and Resilience: Shelter in Emergencies

Eilia Jafar[1*] and Fauzia Siddiqui[2]

[1]*Head, Disaster Management Unit, CARE India; eilia.jafar@gmail.com*

[2]*HOD, Mechanical Engineering Department, Saraswati College of Engineering, Kharghar, Navi Mumbai, Maharashtra, India; fauzia.hoda@gmail.com*

Abstract

Millions of shelters are lost every year due to disasters. During shelter construction and recovery interventions, a number of factors should be considered during planning and designing to ensure sustainability and resilience. This paper makes recommendations for safe and sustainable shelter recovery programming.

Keywords: Resilient Shelters, Sustainable Shelter, Sustainable Infrastructure, Shelter in Emergencies

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1. Introduction

There has been an increase in frequency and magnitude of disasters across the world. Studies on linkage between disasters and development indicate that disasters can both destroy the development gains as well as throw open opportunities for development (Stephenson & DuFrane 2016)[8]. One of the worst impact of disasters is damage to shelter and therefore there mass construction of shelters by humanitarian actors, government as well as communities themselves. It is important that construction in disaster prone areas whether new or reconstruction should take into account the safety security and gender aspects for sustainability.

2. Sustainability and Resilience

Sustainability is the ability of being endured (Merrium-Webster 2016). It is the ability of systems and processes to maintain or defend. USAID defines resilience as the ability of people, households, communities, countries, and systems to mitigate, adapt to, and recover from shocks and stresses in a manner that reduces chronic vulnerability and facilitated inclusive growth (USAID 2011). In view of these definitions, it is important to understand what are the key elements of a sustainable and resilient shelter. Through extensive literature review, the following elements have emerged as the determining factors for sustainability and resilience of shelters:

1- Program Design
2- Technical design
3- Material
4- Safety and security (including safe failure)
5- Habitability and relevance
6- Flexibility and diversity
7- Significance and long term impact of shelter projects

3. Program Design

This is a critical stage. The planning for shelter needs to be based on a detailed shelter assessment with participation from community members and potential owners. Design options should be shared with details of pros and cons. The skill and cost required for maintenance and repair are also key factors that need to be shared with the future owners.

4. Technical Design of Shelter

In a sustainability assessment of shelters to identify the best strategy for post disaster construction in terms of using local material versus global materials, it was found that there was no direct association between construction material and sustainability of shelters. The key factor contributing to strength and sustainability of shelter solutions was the use of appropriate design(Escamilla et al. 2014)[4]. One of the major cause of loss of lives during disasters is poor shelter design and the benefits of a good resilient shelter design go beyond economic and social benefits(ISET-International 2013)[6].

5. Material Options for Mass Housing

Mass housing is a critical part of urbanization. It is important to understand the benefits and limitations of the various avail-

*Author for correspondence

able options. Temporary shelters of relief shelters are meant to meet the immediate needs of people displaced due to disasters. One of the issues in community shelters is the need for privacy. During the third NOAH workshop, a group of participants were motivated to develop solutions for partitions using vegetable fibres and a number of designs were created using banana straw (Barbosa 2014)[2]

Monolithic concrete construction systems using plastic or aluminum frameworks help in rapid construction of similar units with minimal involvement of labor and equipment. For economic reasons, it is most suitable for large projects with more than 500 houses. It also requires high capital cost for initiation. Another technology involves use of Polystyrene core panel system. Self extinguishing expanded polystyrene sheet is sandwiched between sheets of welded wire fabric mesh. These panels finished on site are made of different types like single panel for structural uses, internal partition and walls. Double panels are also used. The panel system has high load carrying capacity, and good acoustic behavior. It also provides energy efficiency as well as fire resistivity (BMTPC 2014)[3].

Air Shelter House technology uses panels made of Thermal Reflective Multilayer System (TRMS) and is useful for making a shelter or emergency tent. It can also be used for creating external or internal thermal skins. The advantage of this technology is that it enables fast assembly of a healthy private that respects human dignity by non skilled workers (Imperadori et al. 2014)[5].

6. Safety and Security of Shelters

A shelter is much more than a structure. It is a place where a person feels safe and secure. It is very important that shelter construction projects whether post disaster recovery projects or a peace time housing for all initiative, should consider the risks of various shocks and build the house for resilience. It should also provide a sense of privacy to the people living inside the shelter. As much as possible, the structural risks should be minimized through appropriate design and material (Sphere Project). Shelter projects very often focus only on the structural safety aspect, but other needs like the need for appropriate spaces for adolescent boys and girls are left un-attended.

7. Habitability and Relevance

According to a study by CARE India, ensuring adequate access to safe water must be considered in all shelter programs. Several shelter projects involving relocation still report no occupancy because no thought was given to other necessary services and facilities. Some of the negative impacts of poor shelter planning include deprivation of the communities from facilities like health, disruption of access to markets directly hitting the income of households and lack of access to clean drinking water nearby. Habitability also depends on availability of land, cost of basic services, law and order and environmental vulnerability. The rapid urbanization in Dhaka has negatively impacted habitability due to high demand for infrastructure and public services with increasing population density (Ahmed 2014)[1]

8. Flexibility and Diversity

The shelters constructed should be built with strong foundation and basic structure to provide for possible vertical or horizontal expansions in future. The designs should be customized considering the different cultural and social contexts and needs.

9. Discussion and Conclusion

A participatory approach should be the basis of all shelter programming. Community members, technical experts, government officials should together look at all aspects of shelter to propose the most appropriate solution.

Following recommendations were made by a study conducted by CARE India Solutions for Sustainable Development on Post Disaster Shelter in India (CARE 2016)[7]:

a. Governance should be integrated into all shelter projects as a part of community engagement and participation to promote ownership.
b. Shelter projects should be seen as a complete ecosystem. Adequate safe water supply should be ensured.
c. Livelihoods support in combination of shelter programming e.g. providing cash for work post disaster supports the communities in recovering soon. If the livelihood opportunities are very far from shelter sites, it is likely that the people will either sell off their houses or will go deeper into poverty.
d. Housing, land and property rights of women and girls must be strongly addressed in shelter programs.

Following a disaster, a comprehensive assessment of shelter needs segregated by sex, age and disability should be carried out and the plan should be informed by the findings of such assessments.

Once disaggregated needs have been assessed a range of shelter solutions should be offered to address varying needs. Reconstruction of shelters should consider future risks and efforts should be made to build back safer.

Shelter planning should also consider the carbon footprint of getting construction materials from different locations. Appropriate building materials should be identified.

A plan for capacity building of communities as well as local masons on disaster resilient construction as well as on techniques

for repair and maintenance should also be developed. If possible a maintenance manual should also be developed, explained and handed over to the owners of shelters.

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1. Empirical Research Papers (ERP) report on completed EIS research that complies with rigorous scientific standards. ERP present original results of completed research studies with the aim of obtaining feedback from fellow researchers. [Limit 16 Pages]

2. Theme Based Papers (TBP) are short papers that present the design and preliminary results of ongoing EIS research studies with an endeavor of obtaining early feedback and further guidance from experts and peers. TBP will be evaluated using the same academic standards as regular research papers (except for completeness requirements). [Limit 12 Pages]

3. Case Study Based Papers (CSBP) describes real-life experiences with EIS that authors wish to share with fellow practitioners and EIS researchers. They focus on problems and solutions in specific contexts. Their aim may be to help other practitioners facing similar problems or to solicit help and possible solutions from other practitioners (or EIS researchers). [Limit 10 Pages]

4. View Point (VP) is a situation for which something is pragmatic or considered as a point of view. The purpose of VP is to share different views about the IT related products and what individual think about that. [Limit 8 Pages]

5. Research Thought (RT) can refer to the opinion or arrangement of research ideas that effect from thinking, the act of producing thoughts on diverse interdisciplinary collaborative research areas or tools with which researcher can formulate it's research paper, choose a method for undertaking a study, write up for findings and discuss the outcomes in a discussion section. In this head author can throw a light on various research tools which can be helpful in formulating a research paper. [Limit 5 Pages]

6. Student Research Initiatives (SRI) is a research initiative by a grass-root researcher and technocrats. This head facilitate students/learners to pursue independent academic and imaginative effort and engage in research under the supervision of a faculty mentor with an intention to heighten student research as a means of collaborative learning, critical thinking and the establishment of knowledge. [Limit 12 Pages]

7. Dissertation Snapshot (DS) is an excerpt from a researcher's own thesis or dissertation which had been previously published or submitted in the form of research project or its own doctoral work. The rationale is to raise the curtain on an application and thought used by researcher in a brief manner with an intention to promote the future researchers to sequel their thoughts. [Limit 10 Pages]

8. Questionnaire Format (QF) A new philosophy called "Questionnaire Format" had been introduced, in which we are going to publish distinguish questionnaires that navigates the usefulness of it in building research and how to communicate with the respondents . The rationale behind introducing this QF is to give a glimpse about the structure and the pedagogy. QF on the other hand provides a niche to grass-root researcher about their various thoughts related to preliminary research and facilitate them in linking with a respective research papers which the researcher had visualize or going to plan in a coming future. This is a new inventiveness under the GJEIS Academic Social Responsibility(GASR) and would be complimentary/charitable in nature. [Limit 5 Pages]

9. Book Review (BR) is a form of literary criticism in which a book is analyzed based on content, style, and merit. BR can be a primary source opinion piece, summary review or scholarly review. Books can be reviewed for printed periodicals, magazines and newspapers, as school work, or for book websites on the internet. A book review's length may vary from a single paragraph to a substantial essay. Such a BR may evaluate the book on the basis of personal taste. Reviewers may use the occasion of a book review for a display of learning or to promulgate their own ideas on the topic of a fiction or non-fiction work. [Limit 3 Pages]

10. Biographical Note of the Luminary in an Area of IS We as per our culture acknowledge in every issue a great leader, Entrepreneur, Technocrats, Academician etc., who contribute a lot to a society in an area of IS. [Limit 2 Pages]

11. Great Enterprise Contribution to Society in Information System Perspectives deals with those enterprises contributing a lot to the society, and considering themselves a wizard in the field of Information System, we publish their profile, with the intention that their creation/contribution would be viewed and duly appreciated by the corporate and academics, all-around the globe. The purpose behind this is to broadcast the most visually powerful, immersive and engaging rich media applications on the Web. [Limit 2 Pages]

12. Award is something given to a person or a group of people to identify their fineness in a definite field especially in an area of EIS, it is rather a certificate of excellence for their contribution in academia or in a corporate world. This start throws a light on an entity or a gamut of researcher who had been honored for their extra ordinary input. [Limit 2 Pages]

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