GJEIS

GLOBAL JOURNAL OF ENTERPRISE INFORMATION SYSTEM

Scope

Global Journal of Enterprise Information System (GJEIS) aims to provide comprehensive coverage and understanding of the social, cultural, organizational, and cognitive impacts of information technologies and advances on an enterprise around the world. GJEIS is a peer-reviewed journal with 4 issues per year published by Informatics Publishing Limited on behalf of KARAM Society. This publication expands fundamentally the body of knowledge regarding the impact of technologies and utilization in contemporary enterprise, assisting researchers and practitioners to work out more effectual systems for managing the human side of enterprise.

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Message from Editor Desk

IT Penetration in enhancing culture of CLEAN 'n' GREEN in an Enterprise

Precious Learners,

CLEAN 'n' GREEN [CnG] philosophy inside an enterprises offers a ground-breaking thought to the Virtual Enterprise world by harnessing the complimentary and clean power of wind to run homes and businesses. The mandate behind keeping this theme for the Journal's first issue of 2015 is to develop a culture of environmentalist spirit in an enterprise. CnG is geared up to endow with a friendly alternative to the mainstream virtual energy provider. We had seen that how Internet based retailer uses eco-friendly products to daily people. It provides customers with purchase or lease, eco-friendly stainless steel water bottles, reusable shopping bags, and environmentally friendly shirts.

The GJEIS as an academic Journal facilitates elegant business leaders with its research initiatives and considering the changing face of the country, for the reason that it also represents the changing face of commerce. The journal is at the moment listed in almost thirty directories in the world, equipped with power to register a unique and persistent DOI (Digital Object Identifier) from Crossref USA http://www.crossref.org, for each article. It also had an impact factor of 1.20

The journal with its present volume of 2015 focused on this part and emphasize how changes brings a paradigm shift on the plus side and create marvelous market opportunities in products and services. Mandate of a Journal is to popularize the impression 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 financial objective, but is more ubiquitous, 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 global team to make GJEIS genuineness.

So make the acquaintance of to the globe of value commencement, and do join together learning fraternity with dissimilar social networks available at www.gjeis.org We as a group of GJEIS have place rationally numerous venture in the last couple of months, and look forward to that our ever improving skills as an editor make obtainable the gratification and learning that have our readers looking forward to each matter. I would like to express thankfulness to each and every one that has helped us with this periodical. Please don't be shy to throw a knock to me, as your proposition and support are obligatory to each person of us.

Dr. Subodh Kesharwani,
Founder, Editor-in-Chief

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Determinants of Student Academic Performance in Indian B-Schools – An Empirical Investigation

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Abstract

Given the highly competitive nature of MBA admission, one cannot help asking the question if the criteria used in the admission decisions are predictable for success in management courses offered at various B-Schools. This paper tries to explain the determinants of performance of students who are enrolled in regular MBA program in an Indian B-School. The study is conducted on first year students of a premiere B-School using multiple regression. Study shows that performance of MBA student in the course is not determined by their earlier academic performance. It can be explained only by the student's exposure to the course contents either through previous experience or otherwise. Academic performance is also explained by motivation to learn, or the efforts student put during the course. This study has implications for management education not only in the area of admission decision but also in area of teaching methods.

Keywords:

1. Introduction

During the last few years there has been a significant increase in business school enrollments across the country. According to Kapur – Mehta Report[5] the student enrolment for academic discipline of management/commerce is around 16,60,238 which is approximately 17.99% of total enrolment of students in an academic year. It is well known that admission to a top rated business school in our country is very competitive. According to Muralidharan et al[1] IIM Ahemdabad was rated toughest business school in the world to get into by the Economist Intelligence Unit (2002); with more than 70,000 applicants were fighting for 200 places for their two year flagship program.

Given the highly competitive nature of MBA admission, one cannot help asking the question if the criteria used in the admission decisions are predictable for success in management courses offered at various B-Schools. Thus, the knowledge of the determinants of academic performance of a MBA student will help to enhance the decision making in the admission process. Similarly, management educators will also be interested to know the determinants of academic performance of MBA student so that they can design the syllabus, course and various other supporting activities to cater the needs of the students. This study will also shed light on why some students in the MBA course better than the others.

In this paper we have tried to explain the determinants of performance of students who are enrolled in regular MBA program in an Indian B-School.

2. Factors Affecting Student Examination Performance

Overall academic performance of the student can be attributed to several factors. Keeping the variables like age, gender, cultural and economic background, qualification of parents etc. controlled academic performance of students in MBA classes in Indian B-Schools can be attributed to following factors- Admission Test Score (like- CAT, XAT etc.), their graduation academic performance, their pre - college academic performance i.e. high school performance, their earlier exposure to the courses offered or familiarity with the course and finally motivation of the student to study during the course period.

MBA is offered as a post graduate program in most of institutes across India and with wide variations of standards of University education in India, a need was felt to have a separate admission

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system for entry to MBA program. This need is catered by various admission tests like - CAT, XAT, MAT etc. which are developed on the lines of GMAT and measure mathematical aptitude, logical reasoning, language comprehension etc. According to Sinha[6] COSMODE research has shown that admission tests used by b-schools in India do not demonstrate any linkage between performance in test and performance in MBA class; there is hardly any research basis for test.

According to Dreher and Ryan[3] it is the assumption that people who have worked full time for several years enjoy, richer more personally relevant learning in the MBA classroom than do their less experienced counterpart is easy. They say that this is because it is presumed that knowledge they gained on the job helps them to understand the interrelatedness of various business functions. In their another article Dreher and Ryan[2] prior work experience was found to account for only a small proportion of the variance in first-semester grades and was found to be unrelated to academic performance in the second semester. Taking these results and other existing empirical studies into account, there is little support for the view that previous work experience (as assessed by typical admission procedures) leads to higher levels of academic achievement. For the present article I am considering the student's earlier exposure to the courses offered or familiarity with the course weather it is in terms of experience through work or he or she has familiarity with course contents by other means.

Eskew and Faley[4] have mentioned in their article that past academic performance is significantly related to future performance- i.e., grades predict other grades. Yang and Rosa-Lu (2001) in their study concluded that undergraduate performance is the most important prediction for the graduate academic performance, thus we are considering the variables- graduation academic performance and pre- college academic performance which may affect the student academic performance in MBA program. Eskew and Faley[4] also mention that research has also shown that measures of effort/motivation can explain significant portions of the variance in overall academic performance above that explained by grades and aptitude test scores.

3. Sample and Data Collection

In order to understand the variation in the performance of students during their first year at an Indian B-School a sample of 100 students, who are presently in their final year at a premiere b-school were interviewed. All the students were from same academic program. The final year performance is based mainly on performance in electives and is therefore not considered. The performance (CGPA) of these students during their first year was recorded along with their graduation GPA, high school GPA, XAT score, overall exposure to the courses and motivation.

4. Study Variables

The performance of the students is measured on the scale of 8, where 0 was the lowest performance index and 8 is the highest performance index. Similarly, the graduation performance and high school performance is measured on the scale of 5, where 0 means lowest performance index and 5 means highest performance index. Further, the MBA Entrance Admission Test (MEAT) score is expressed in terms of percentage (with respect to highest marks achievable). The exposure is measured in terms of familiarity with the courses and is rated on a scale of 10. Lastly, the motivation is measured in terms of the number of hours devoted to the study.

5. Statistical Methodology

In order to understand the relationship between the performance of first year students and other factors we used multiple regression analysis. However, due to high degree of multi co linearity between the predictor variables, the predictor variables were first recategorized into factors using factor analysis and then these factors were used as predictor variables in the multiple regression analysis. The regression analysis was performed using SPSS v 16.0, with first year performance as the criterion variable and content exposure, study motivation, graduation performance, school performance and MEAT score (recategorized into factors) as predictor variables.

6. Checking Assumptions of Multiple Regression

6.1 Normality of the Variables

The distribution of all the variables was analyzed using the Shapiro-wilk test of normality. The results in Table 1 indicate that none of the variables seriously violates the normality assumptions ($p>0.05$).

6.2 Multicollinearity of Variables

The correlation matrix in Table 2 suggests that among the predictor variables the MEAT score, school performance and

Table 1. Shapiro-Wilk test of normality

	Statistic	df	Sig.
Performance	0.908	100	0.100
MEAT Score	0.990	100	0.659
School Performance	0.973	100	0.370
Graduation Performance	0.985	100	0.335
Exposure	0.948	100	0.401
Self Motivation	0.918	100	0.811

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Table 2. Correlation matrix

	Performance	MEAT_Score	School_ performance	Grad_ performance	Exposure	Motivation
Performance	1.00	-0.03	-0.03	-0.08	0.92**	0.93**
MEAT_Score	-0.03	1.00	0.43**	0.52**	-0.05	-0.05
School_performance	-0.03	0.43**	1.00	0.55**	-0.04	0.00
Grad_performance	-0.08	0.52**	0.55**	1.00	-0.11	-0.09
Exposure	0.92**	-0.05	-0.04	-0.11	1.00	0.94**
Motivation	0.93**	-0.05	0.00	-0.09	0.94**	1.00

** Significant at 5%

graduation performance have high and significant correlation. Similarly, there is a significant positive correlation between exposure and motivation. Thus, we conclude that there is a high degree of multicollinearity between the predictor variables.

7. Principal Component Analysis (Factor Analysis)

The Eigen value criteria indicate that the set of five predictor variables, which has high degree of multicollinearity, can be recategorized into two factors based on the pair-wise correlation between them. These two factors can be represented in terms of the five predictor variables as follows:

Factor1=0.629*(MEAT Score) + 0.614*(School performance) + 0.709*(Grad performance) Factor2=0.733*(Exposure) + 0.748*(Motivation)

8. Correlation Matrix

The correlation matrix in Table 3 with the new factors indicates that there is no significant correlation between the factors. Thus, the factors do not show the problem of multicollinearity.

9. Results

The F-test results indicate that the two factors are statistically significant in explaining the variation in the performance of the first year students, $F(2, 97) = 391.60$, $p<0.05$. Moreover, the model summary results in Table 4 suggest that 88.8% of the variation in the performance of the students in their first year can be explained by the two factors.

Further, the regression coefficients in Table 5 indicate that Factor 2 ($t = 27.96$, $p<0.05$) is statistically significant in explaining the variation in the performance of first year students. Moreover, the regression coefficients for Factor 2 indicate that for each unit increase in the value of Factor 2, the performance of the student in first year increases by 0.62 units. Overall, the regression model for the present analysis can be represented by Performance = 1.75 + 0.62(Factor 2)

Performance = 1.75 + 0.62*(0.733*(Exposure) + 0.748*(Motivation))

Table 3. Correlation matrix (with factors)

	Performance	Factor1	Factor2
Performance	1.000	-0.037	0.943**
Factor1	-0.037	1.000	-0.056
Factor2	0.943**	-0.056	1.000

** Significant at 5%

Table 4. Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.943	0.890	0.888	0.483

10. Conclusions and Limitations of the Study

Study shows that performance of MBA student in the course is not determined by their earlier academic performance. It can be explained only by the student's exposure to the course contents either through previous experience or otherwise. Academic performance is also explained by motivation to learn, or the efforts student put during the course. This study has implications for management education not only in the area of admission decision but also in area of teaching methods. This study does not support the use of earlier academic performance in school or college as selection criteria. The outcome of the study questions the relevance of admission tests in selection for the program. The results indicate that we may need to redesign our admission test structure to make the good selections decisions.

Table 5. Regression Coefficents

	Unstandardized Coefficents	Standardized Coefficients		t	Sig.
	B	Std. Error	Beta		
(Constant)	1.75	0.28		6.32	0.00
Factor1	0.00	0.01	0.02	0.46	0.65
Factor2	0.62	0.02	0.94	27.96	0.00

There are certainly certain limitations of the study that constrain the generalizability of this study. Firstly, only few predictors were studied due to limitation of time and resources. Other variables like student's economic and cultural background, parent's education, age, commitment to other college activities etc. could have improved the study outcomes.

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Drinking Water Supply and Sanitation: A Typical Syndrome in Sub-Urban Rural Areas: Require Scientific and Technological Intervention

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Abstract

The population and industrial growths are demanding for sustainable and safe drinking water and waste disposal in rural and urban belts. Deficiency and lack of fresh water supply and sewage disposal/treatment affects the health and hygiene of household, community dwellers and local/regional environment. The paper highlights the problems around Farukh Nagar of Gurgaon District in Haryana and suggests for scientific and technological study to address the issue. Preliminary field visit and study show the gravity of problem and possible reasons. However, detailed study is required adopting scientific and technological viable strategy including methodology, questionnaire based interaction with beneficiaries and agencies to collect stratified socio-economic and technical primary and secondary details/records, people perceptions and experiences, Ground water details (level, yield, point source and quality fluctuations), Surface water source, rainfall, water supply system/parameters, population and growth, waste water and sludge production, treatment and disposal system, recharge and outfall zone in the study/nearby areas, etc. Further, analysis of data employing hydrological/hydraulic software, testing/verification of quality parameters with Indian and international standards, physical models, workshops among beneficiaries and user agencies addressing the points of innovation to implement viable and sustainable water supply and sewage disposal plans are needed.

Keywords: Drinkable Water Supply, Waste Water Disposal, Ground Water, Quality, Environment, Innovation

1. Introduction

The availability of surface and ground water resources are becoming uncertain in Haryana as in India. The water resources of India are unevenly distributed over space and time. The western India experiences extreme dry climate whereas eastern India (Cherrapunji in Meghalaya) is the wettest place of the Earth. Some rivers have perennial and/or seasonal flow with huge discharge to the sea. Ground water table/peziometric head is varying and depleting with space and time. Subsequently, fresh and safe drinkable water is a major problem in most of the places of India. The National Water Policy has given priorities to drinkable water for making available to all without any discretion. Rajeev Gandhi National Drinking water mission is in operation since last 30 years. But, masses are far away from the access of safe drinkable water due to growth in population, over exploitation of ground water, recharge deficiency; poor and polluted water, wastage of water and half hearted planning. There is rapid development in urban area but water distribution system is traditional which requires automation. Another major problem is connection of suction pumps to suck the water directly from the main supply line.

Similarly, in the Vedic era, Bharat was well planned and very much near to the nature by maintaining high level of purity and worshiping each and every resource. The resources were used with a sense of conservation and sustainability without over-exploitation or damage or pollution to the resources. Indian practices and vision of Rastrapita Mahatma Gandhi on waste disposal practices were beneficial and congenial, but the recent development, urbanization, loss in sense of environmental and social responsibilities made the sewage production, disposal/treatment a gigantic and challenging task. Problem has been multiplied and aggravated further by centralizing the sewage collection and disposal system without assessing the negative impacts. A planned approach of Shri Bindeswari Pathak for the sanitation services, known as Sulabh Sauchalaya was a breakthrough, but who will like to pay a silly amount frequently for this service online to search change before chain. Governments and voluntary organizations are doing their best/worst to solve these increasing problems through

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various projects, departments and municipalities to keep the environment clean and green. The total waste water generated by about 300 class-1 cities is almost 81% of the water supplied or used. The level of treatment available in these cities with existing treatment plants varies from 2.5 % to 89% of the sewage generated[2]. Aarshi[1] summarizes that most of the people living in Delhi are unaware of the fact that they are party to pollute the River Yamuna. Eco-sanitation and waterless sanitation systems are in use but sustainability, soci-economic, user satisfaction and effectiveness are not viable.

At an international level the situation is also not very good from sewage and waste water treatment and disposal points of view. The residential, commercial and industrial development in Hudson Valley has resulted in increased quantities of solid waste and sludge which require treatment and disposal. Presently, disposal is into water bodies or in landfills. New-York States are forcing municipalities to plan for waste management in the regions (Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster and Westchester) providing partial funds and asked the New York State Environmental Facilities Corporation to investigate alternatives for managing their sludge. After in-depth analyses the investigating corporation suggested five management alternatives as i) to develop a regional sludge and septage management system and ii) a permanent management taskforce under the coordination of Hudson Valley Regional Council including three alternative technologies: iii-v) incineration, land application and landfill. UNICEF's broad view of sanitation reflects perceptions of pollution and cleanliness in environment and to stimulate household toilets. Interestingly, there are examples of successful effort by the government agencies, voluntary organisations and individuals in India and abroad. Nepal Water and Health (NEWAH) organisation has grown rapidly since 1992 to 1997 in South-Asia and initiated 50 time bound (18 months) new projects each year and completed a number of subsidized (50%) toilet options. Similarly, the Mvula Trust was established in 1993 to improve the health and welfare of rural and sub-urban South-Africans through increasing access to safe domestic water and sanitation services. Sanitation is subsidized by the Government and a minimum contribution of 8% of the capital cost is expected for a toilet from household. Another example concerning headquarters of Berberati, Bouar and Bossangoa and surrounding villages are about the improvement in living conditions through rehabilitation, water supply and sanitation systems[11]. The technical choices were construction of separate Manual Flush Toilets (MFT) for ladies and gentlemen and Ventilated Improved Pits (VIP) for sewage disposal. For the treatment of solid wastes landfill, incineration and composting options were examined and option of the controlled landfill was adopted which includes fencing, wastes spreading and compaction to avoid dispersal. Overall, assessment reveals a sanitation service (from the current 10% to 20% in 2020) in the project area. Interestingly, situations of water demand and sewage productions in cold climatic regions are not as high as in India. Thus in European countries innovations are not required for sewage disposal/management as required in India having limited resources and diverse situations.

Overall there is wide deficiency in fresh water availability and supply for the household in the country. Neither rural/municipal water supply agencies nor the users are satisfied with the traditional and adhoc system. On the other hand, the price of bottled water (uncertain quality) is higher than the cost of fruit juice/cold drinks. Research is needed to improve and make the system technologically viable and sustainable. There is gap in national and international levels[3] to give area specific solution. WMO has published guidelines (Edition I, II and III in 1984, 1999 and 2008) for Drinking Water Quality. The guidelines are intended to support the development and implementation of risk management strategies that will ensure the safety of drinking water supplies through control of hazardous constituents. It is the preamble of WHO[12] that the access of safe drinking water is important for the health and development at local, regional and national level. Similarly, there is wide deficiency of mechanism and network for sewage and sludge collection, transportation, treatment and disposal produced from the urban/rural households and community. Neither rural/municipal agency nor the people are satisfied with the traditional and adhoc ongoing systems. Research is needed to improve and make the system technologically viable and sustainable. There is gap at national and international levels[3] to give area specific solution. The national and international guidelines are available for measuring the status and quality of health and sanitation. But it is important to develop and implement the strategy based on local socio-economic and technologically viable conditions for the health and sanitation at local, regional and national level. Planning, reliability, efficiency and quality related issues are important to be addressed effectively. Variables/ parameters/feedback supplied at the consumer's end would be important for performance evaluation using bench making techniques[5,6,10]. Consequently, through scientific and technological intervention area specific problems are needed to be addressed and resolved. The sewage treatment and disposal strategy, atomization and management can be improved technologically through a sound research plan and proposal.

An interested group of 2nd and 3rd year's students shall be identified and engaged in the project for field assessment and then shall be involved actively to improve efficiency of water conservation, drinkable water supply, sewage and sludge disposal plan and to develop model for an efficient management system.

2. Conventional Methodology

The volume of liquid sludge produced at a sewage treatment plants usually represents approximately 1-2% of the total flow of sewage, but treatment and disposal costs nearly 30-50% of the works. Sludge from conventional sewage treatment plants are derived from primary, secondary and tertiary processes. The primary sludge consisting largely of faecal solids contain paper, sanitary and medical products, kitchen wastes, grit and other mineral matter for which inlet screening, grit removal trap, etc. are used to remove non-biodegradable material and water can be used whenever possible. Humus sludge is the product of settlement of effluent from biological filters, submerged aerated filters, etc. and is mainly bacterial and fungal material are removed. In an activated sludge plant, polluting matter is mixed suspended solids and a portion of sludge, known as surplus activated sludge consisting of flocculated/synthesized solids and micro-organisms is removed at regular intervals. The fraction of secondary sludge that remains in the effluent from the secondary clarifier is removed by the tertiary treatment filters. Tertiary sludge rarely contains more than 1.0% dry solids. Conventional biological treatment of wastewater under aerobic conditions includes Activated Sludge Process (ASP) and Trickling Filter. The quantity of the return sludge measured after 30 minutes of settling is defined by the Sludge Volume Index (SVI) and expressed as sludge volume in mL for one gram of dry weight of Suspended Solids (SS). The SVI varies from 50 to 150 mL/g of SS. Lower SVI indicates better settling. The sludge which does not settle in sedimentation tank is called as bulking sludge. The sludge bulking can be controlled by air supply, eliminating shock loading to the reactor, or by increasing temperature of the wastewater or by small hypochlorite dosing to the return sludge line to avoid the growth of filamentous hygroscopic micro-organisms. Temperature maintenance is important for the sludge digestion. Anaerobic digestion has been broadly recognized as the core of sustainable waste management[4]. The UASB reactor is the most widely and successfully used high rate anaerobic system for sewage treatment[7]. The performance of the one-stage UASB systems at low temperature climates (5-20°C) is highly limited. The produced biogas may be reused for heating the digester content. The sludge recirculation improves both the physical removal of solids and the conversion, as it increases the methanogenesis from 20% in the one stage UASB reactor to 47 % in the two stages UASB-Digester system[8].

3. Study/Project Area

The project is envisaged to select a suitable populated zone and evaluate the adequacy, safety and sustainability of drinkable water supply, sewage collection and disposal system to evolve methodology for improvised and sustainably managed system.

The sample study for the status and water supply issues have been evaluated based on a field visits in Farrukh Nagar and villages around, i.e. Saidpur, Khentawas, Patli-Hazipur. The ground water of Khentawas and Farrukh Nagar and area around nearly 1-2 km^2 are saline which is increasing over years. In the past salt was prepared in Farrukh Nagar and transported through the exclusive railway for the same. Water supply pumps and systems are available but certainty of getting drinkable water is at stake even after adopting various measures i.e. increasing the depth of tube well or installing new tube wells in remote or supplying the water in shifting. A reconnaissance survey conducted reveals that people of urban or rural belts are spending sleepless night to wait for uncertain water supply and keep the pumps running for hours to withdraw water from main supply pipeline with hope to collect sometime fresh and usually saline water. Farrukh Nagar has series of shops to rewind the burnt motor of water pumps. Even the water supplying in-charge/personnel of PHED are not satisfied with such tragic situation but they are helpless. Picture 1 shows brief glimpses of situation at Khentawas which are deteriorating since last 3 decades. Khentawas contains nearly 300 cattle and 1500 population in 300 households. Old pumps of

Figure 1. Dry/defunct water supply well cum tube-well since last three decades.

Figure 2. Dry tube-well functional in monsoon with saline water supply.

Figure 3. Water tanker to provide untreated fresh drinkable water to needy.

Figure 4. Village Anganwari women (young to old) are highlighting water related problems.

Village Khentawas deliver saline water, not fit for drinking and at a distance of two kilometers fresh water is available but depth gone down from 50 m to 60 meter. One new submersible pump of similar 7.5 HP capacity has been installed 3 years back to augment the sump (storage tank).

A booster water pump plant of PHED is functional to supply the fresh/saline mixed water. Consequently, most of the villagers are managing to collect fresh water (salinity free ground water) for drinking from privately installed tube-well at one Km from village. Problem is so severe that some time people quarrel for getting water. Although Saidpur villagers have similar set of twin pumps for one-line water supply system of saline-free water but dwellers having road or their house plinth at relatively higher levels or at tail end are not able to find water in main pipeline and deprived from getting water to pump. Villagers have hope of treated water supply through canal to the booster pump as per recent costly plan which invites further investigation for its effectiveness. Apart from poor quality of water major issues are about pumping water directly from main supply-line.

Similar study conducted locally for the status of waste water, sludge and sewage treatment/disposal reveals that people of

Figure 5. Sump of 50,000 ltrs with Booster pump of PHED, Haryana. Two tube-wells, each of 7.5 HP submersible pumps feed this sump. 35 year old one at 1 km delivers saline water, while 3 yr old pump at 2 km provides fresh drinkable water.

Figure 6. Hand pump or motor connected to main supply line to withdraw water. Even the open street tape has not water pressure to flow.

urban or rural belts are not satisfied with the present scenario and are helpless to do anything more than whatever they are doing. Picture 7-12 show brief glimpses of the situation at Farrukh Nagar which are deteriorating since last 3 decades. The followings are the extract of the locals (agency and people) involvement and perceptions towards sanitation.

Farukh Nagar covers nearly 1 square km area; there are 13 wards each consisting of nearly 700 voters. Overall the city contains a population of nearly 15000 people. Basically household waste and waste from shops are the source of sewage production. There is no sewer system, treatment or outfall in the study area. The domestic wastes being disposed off in abundant house or in open storm drain create problems of pollution, foul and blocking of drains. Side drains and roads get polluted due to putting the wastage here, there and on road/side. The drain is full of dirt, sediment load, and paper/plastic. The long time accumulated water is black and full of foul and toxic elements. However, contract has been given by the municipality centrally for cleaning the town. There is clean-up operation daily in the morning and

Figure 7. Waste Water Disposal Pond of Kentawas.

Figure 8. Another view of Disposal Pond behind Anganwadi at Kentawas.

Figure 9. Mixed cum Sediment and Dirt Loaded Drain of Farrukh Nagar.

putting the dirt from drain on roadside to collect and dispose or burnt partly.

Household wastewater sewerage is combined with storm water drain is. Drain water has no proper escape or outfall. Drain capacity is limited only sufficient to carry the dry weather flow. Even dry weather flow gets overflowed and accumulated over the road. There is no sewer system in the town. There is no treatment unit or outfall point to dispose the waste water. Earlier, funds of

Figure 10. Mixed drain Sewage Overflow Over-road Disposal System.

Figure 11. Storm cum Sewage Drain De-silting Operation.

Figure 12. Typically Clean Municipality of Farrukh Nagar.

nearly 10 million rupees had been sanctioned for sewer but it is not laid due to problem of outfall. Recently big water supply and underground sewer lines projects have come up but the proper study and investigation can only ascertain the effectiveness. People are habituated to live with the existing situation without any individual or group initiative. People are confined to their livelihood and earnings at any cost leisurely.

Households have own system for night-soil disposal but it is not like septic or recharge tank. For the humus/sludge waste a well of nearly 1m in dia and 8 m deep lined by open joint Hume section of 1m length is being constructed. S-trap Pedestal/English type commode is being used. The well of the above dimension is sufficient for 8 to 10 years for night soil of a small (4-5 people) family. The sludge material is pumped in hired tanker from such wells in each 7 to 8 years paying Rs 800 who take it away/ Gurgaon to commercialize, sell or dump. The waste effluent is seeping in the ground. Consequently, there are numerous point source of pollution like this in the region responsible to contaminate the ground water and environment. It is difficult for locals to suggest an alternative, but they remembers that the days of past were better when there was forest and used to go outside. Now, there is no forest. Ground water has gone down. In the past ground water was saline. There was large unit of salt production and supply. Now salinity is decreasing and pollution load is increasing. However, rigorous study is required in this sector as people have hope from experts and helping hands for managed and treated wastewater and sludge disposal system where there is not any natural outfall.

4. Proposed Study Methodology

Being the problem an area specific, the water availability, its quality, treatment, supply strategy and atomization can be defined technologically through formulation of an area specific research plan. In the literature use of flow sensor, GSM modules, pH sensor etc. are suggested. It may be helpful in detecting the leakage and unauthorized taping. Remote Terminal Units (RTU), flow transducers and actuators distributed control and power panels for the pump stations etc. assure real time monitoring of the main technological parameters of large water distribution networks[9].

The project is envisaged to select a suitable populated zone of the study area that is area in and around Farrukh Nagar for demographic study, regional ground and surface water hydrology behavior and pattern (quality, quantity, time series and levels) study, rainwater harvesting, recharge and withdrawal mechanism, purification, storage and supply network within the study area. Methodology shall be employed to collect data as per designed questionnaire and specified instruments. The designed questionnaire shall be aimed to collect stratified socio-economic and technical primary and secondary details from the agencies, records, people perceptions and experts. While the specified instruments based data shall be consists of GIS, Ground water and aquifer details (water level, yield, quality fluctuation and source of pollution), Surface water source, rainfall, water supply system/parameters in the study and nearby areas, etc. Further, analysis of data statistically and employing hydrological and hydraulic software and testing of quality parameters using standard techniques in lab shall be taken up. Various water samples shall be tested for parameters like colour, turbidity, pH, Ca, Mg, iron, chlorides, Fluorides etc to verify with Indian and international standards. Analysis and improvement in water head and distribution network for making the system effective, efficient and free from unauthorized taping, leakage or losses are the need of the hour. Fast purification system is required by reducing the detention or flow through period. The study output and recommendation shall be beneficial to plan and to save the total construction and treatment, O & M costs and time and shall be helpful to provide the sustainable and safe drinking water. Methodology shall be developed to supply fresh and drinkable water along-with daily use water which may meet the national and international standards and demand of the urban and rural population. The following assessment, investigation and developmental study shall be carried out to meet the objective.

The scientific and technological interventions are required to study in detail with the following objectives:

- To assess the status of fresh and safe drinking water scenario in rural and urban locality of the country.
- To review the impact of similar studies, if any completed in the region in the past.
- To investigate the availability and quality of surface and ground waters resources in the area being used over years.
- To study the system, response of the users, community, social activists and government agencies towards their problems and potential regarding water supply.
- To assess the future plan of actions of local citizens and government agencies in the area and to study the gorgeousness and expediency of the proposal.
- To devise suitable methodology for purification, distribution and automation with control system which may be technologically viable, efficient and cost-effective sustainable safe drinking water supply system meeting the demands of all dwellers (rich/poor) in rural/urban environment.
- To have comprehensive study of the system, response of the users, community, social activists and government agencies towards their problems and potential regarding water supply.
- The study shall be supported by workshops in order to provide an adoptable model, as the problem persists all around in the country in same or other form.

Consequently, the study model, modality and results are to be validated through the public/user agencies or service providers, implementing agencies and a brief workshop.

Similar study and investigation regarding status of waste water and sludge disposal are to be taken up. In technical terms a number of tasks associated with identification of options that meet the perceptions and priorities of the locals; feasibility of technical options for potential users; design of infrastructure to meet future demands; information about the costs of options; demand assessment; validation of technical design and levels of service; training and management extension are required. Percentage of households including men and women, boys and girls, elderly, people with disabilities using the sanitation facility whenever needed is an indicator of adequate sanitation. The percentage of households/community excreta carried through a sewer network to a designated location (e.g. treatment facility) or hygienically collected from septic tanks or latrine pits by a suction truck (or similar equipment that limits human contact) and transported to a designated location (e.g. treatment facility or solid waste collection site) or stored on site (e.g. in a sealed latrine pit) until they are safe to handle and reuse (e.g. as an agricultural input) is an indicator of safely managed excreta. A pit latrine shared among no more than 5 families or 30 persons with a superstructure, and a platform or squatting slab may be of different types, i.e. composting latrines, pour-flush latrines, and VIP connected to a septic tank or a sewer.

At national and international level the status of wastewater disposal, treatment and management have been reviewed and found that situation is alarming, solutions are conventional and inadequate, technology are not viable or similar to the entire region. To A preliminary field survey on local practices and facilities available in the region reveals that people are suffering from chronic sewage, sanitation and night-soil problems over last 20 to 40 years. Not only rural areas where there is no municipality except Panchayat of vested interest even urban or semi-urban areas where there is municipality are engaged to earn through contractors on the name of maintenance and keeping the problems everlasting. There is need to give a targeted attention to investigate the problems in details and come-out with a socio-economic and technological viable system. This proposal is devoted to study and investigate the problems and to formulate a technologically viable, modern and sustainable system for waste water management in the study area as a model study and to be beneficial and a guidelines for other regions. Fast purification system is required by reducing the detention or flow through period. Beneficial use of pertinent and sludge as in practice may be needed to develop and improvise in lack of suitable outfall.

The project is envisaged with the aims to select a suitable populated rural, semi-urban and urban study zone, study sewage production quality, quantity and diurnal and periodic/seasonal variations, and manages the system accordingly. The study models will not only save the total construction and treatment cost, O & M cost and time but also provide the beneficial use of sludge disposal and congenial environment. The following objectives completion based study will be carried out:

- To assess the status of household and sewage waste water scenario in rural and urban locality of the country
- To investigate the availability of river, stream, pond or ground water as outfall point and its quality and quantity over years
- To study the system, response of the users, community, social activists and government agencies towards their problems and potential regarding waste water management
- To assess the present and future plan of actions of local citizens and government agencies in the area and to study the gorgeousness and expediency of the proposal
- To devise suitable methodology, technologically viable, efficient and cost-effective sustainable wastewater management system irrespective of status (rich/poor) in rural/urban environment.
- To make the study comprehensive in order to provide an adoptable model, as the problem persists all over in same or other form.

The following major steps are required to be taken to fulfill the objectives.

- To mobilize the resources and conduct literature survey, field visits, reconnaissance survey, sample and data collection.
- To compile data and drawings, analyse data, develop model, upgrade program, prepare physical model.
- To conduct workshop for modernization and management validation and for People participation and awareness.

5. Innovative Issues for Discussion

The following components shall be innovative from fresh drinkable water supply point's of view:

(a) Why drinking water problem is turning towards grievous and chronic?
(b) Why Well are dry? Why tube-wells have to go deeper?
(c) Why fresh water is not available in wells or tube-wells?
(d) Why recharge program is not effective?
(e) Why the fresh water tube-well in adjacent has saline water?
(f) How to use surface water and groundwater conjunctively for water supply to maintain the water table of the region to some extent?
(g) How the saline and fresh water should be supplied to users so the user can get assured amount of fresh water?

(h) Why all households are extracting water from the main supply line?
(i) Why the tape is dry even at ground floor while the supply is through booster pump or an elevated tank? What is the solution to maintain the pressure?
(j) What should be the cheaper way of water treatment for masses?
(k) How individuals and community will take interest to improve the supply system.

Solution to all the above issues are not only area specific but innovative also. Similarly the following components shall be innovative from waste water treatment and disposal point's of view:

(a) Why waste water disposal problem is turning towards grievous and chronic?
(b) Why domestic sewage is mixed with storm water drains?
(c) Why the storm water drain capacity is not adequate and waste water flows or gets accumulated over road?
(d) What are the alternative solutions if there is no conventional source of treatment or outfall point/stream is available to dispose-off the sewage/sludge?
(e) What should be the better option for sewerage?
(f) Storm and sewer water drainage system should be designed separately or combined in the study area?
(g) How the sewage effluent can be treated and reused for specified domestic and agriculture application.
(h) Why all households have well-pit instead of septic tank for night-soil? What are negative effects of this system? What is the sustainable solution?
(i) Why contractors are engaged to manage the sewage disposal system?
(j) How individuals and community will be interested to improve their sewerage system.

Addressing the above issues and solution through scientific and technological intervention are area specific and innovative.

6. Conclusion

Safe, sustainable and viable technology for drinkable water supply is major challenge. Secondly, inland, on-land and water pollution problems are increasing with growth in population, urbanization, change in practices and unplanned development. Sewage water is either left untreated, or being treated partially or disposed off without proper investigation and management. The project is envisaged to select a suitable populated zone and evaluate the adequacy, safety and sustainability of water supply status, future direction for scientific and technologically viable strategy for availability of quality water at door step, sewage collection and disposal system and to evolve methodology for improvised and sustainability managed system. Methodology shall be employed to collect the data as per designed questionnaire and specified instruments. Further, statistical and model analysis employing testing of quality parameters and software shall be taken up. In technical terms, project staffs are likely to be involved in a number of tasks associated with options identification that meet perceptions and priorities of the locals; developing feasible technical options for potential users; designing infrastructure to meet future demands; providing detailed information about the costs of options; demand assessment; validating technical design and levels of service; providing training on future upgrading, management and extension. Study model may be sufficient to meet the national and international standards and demand of the urban and rural population. DST is playing a leading role in supporting and expediting the scientific and technological intervention for viable and sustainable solutions covering the water supply and sanitation related issues of the country. Indeed, we expect the active support of DST in this endeavor. The study project shall facilitated the interested groups of 2nd and 3rd year's students of Urban-cum-Rural Civil and Environmental Engineering in their project work and field studies to improve the amount and quality of drinking water, water purification, disinfection, and distribution and atomization strategy. The help of Electronic, Computer, IT and Applied sciences shall be available in automation and testing events/activities.

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A Study of Changing Pattern and Demand for Mobile Banking Services in India

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ABSTRACT

Recent innovations in the telecommunication have proven to be a boon for the banking sector and its customers: One of these is Mobile Banking, where customers interact with the bank via mobile phones and banks provide them the services like short message services, fund transfers, account details, issue of cheque book etc. Presently almost all the banks in the world have started providing their customers "Mobile Banking" services. The main issue of this study is to understand the factors which contribute to user's intention to use the mobile banking services. The purpose of this review paper is to explore the factors that influence the adoption behaviour of mobile banking services by Indian consumers. The data was collected from 150 respondents from Delhi city in the month of November and December 2013. Around 61.33% respondents opined that this system is less costly and time saving and 58.67% respondents would like to try this service. In this paper, we will share what is mobile banking (m-banking), RBI guidelines for mobile banking in India, advantages of adopting this new technology both for the banking sector as well as the consumer and issues which needs to be addressed relating to this new form of banking.

This paper also discusses the various steps that mobile banking providers should take to increase their mobile banking services user's database. Recent innovations in the telecommunication have proven to be a boon for the banking sector and its customers:

This paper also discusses the various steps that mobile banking providers should take to increase their mobile banking services user's database.

Keywords: Mobile Commerce, Mobile Banking, TAM, TRA, IDT, UTAUT, Adoption Behaviour

1. Introduction

According to TRAI, mobile banking involves the use of mobile phones for banking transactions like fund transfer, balance check, etc. As per the extant guidelines of RBI, banks that are licensed, supervised and have a physical presence in India, are permitted to offer mobile banking services. Mobile Banking policies in India aim to enable funds transfer from an account in any bank to any other account in the same or any other bank (interoperability) on a real time basis irrespective of the mobile network the customer has subscribed to TRAI[18]. The Mobile phone plays a very important role in the development of mobile commerce and mobile banking.

2. History of Mobile Phones in India

A report of the Cellular Operators Authority of India (CAOI), regarding the entry of cell phones into India, depicts that it was in the year 1992 that telecommunication Sector in India liberalized to bridge the gap through Government spending and to provide additional resources for the nation's telecom target and the private sector was allowed to participate. In the year 1994 India was licensed to provide cellular mobile services granted by the government of India for the Metropolitan cities of Delhi, Mumbai, Kolkata and Chennai. Kolkata became the first metro to have a cellular network in 1995.

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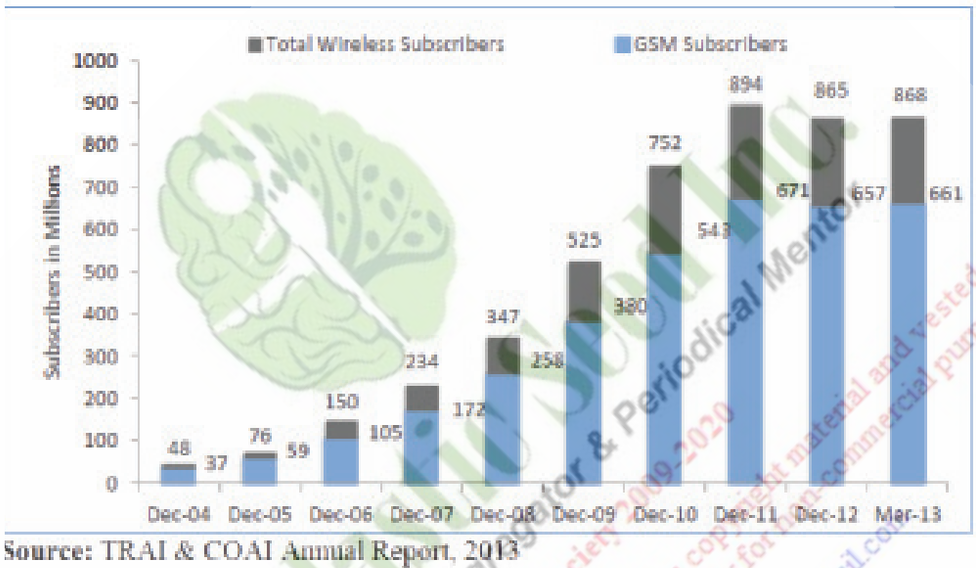
TRAI was set up in the year 1997 for the regulation of telecommunication sector in India. In March 1999 National Telecom Policy (NTP) was announced. In 2003 CDMA network was launched. In 2004 Broadband policy was announced. Mobile phone subscribers had reached 100 Million by 2006. In 2008, RBI issued operative guidelines for banks for mobile banking transactions in India. By the year 2009, wireless subscriber base crossed 400 million. At present wireless mobile phone subscribers are 867 Million i.e. it has almost doubled in the last four years.

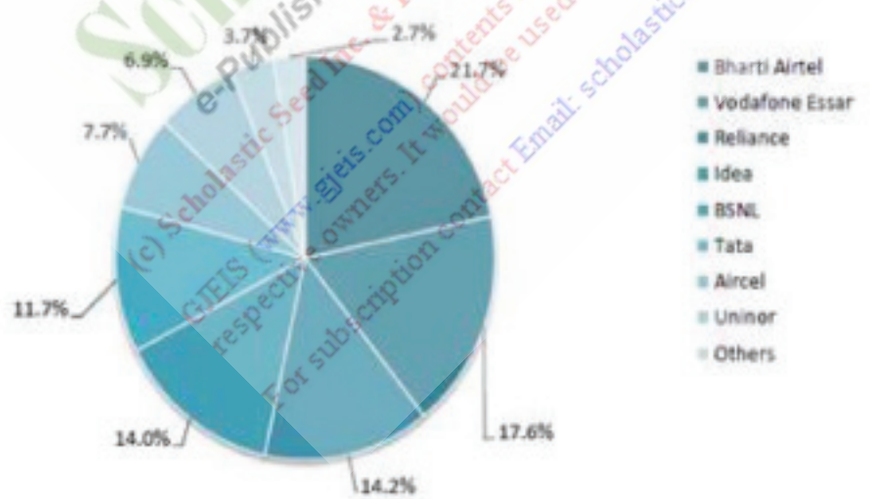
With the advancement in the operating systems of the mobile phones and mobile technology like 2G, 3G, 4G has brought a significant change in the way of working of mobile banking services providers. Since the introduction of 2G and the subsequently 3G, the demand for mobile phone has increased many folds. This can be interpreted by a rapid increase in the number of mobile phone subscribers (Figure 1).

There are many wireless operators in India but Bharati Airtel has got the maximum share of 21.7% after the Vodafone Essar (17.6%) see Figure 2.



Source: TRAI & COAI Annual Report, 2013

Figure 1. All India total cellular and GSM cellular subscriber base.



Source: The Indian Telecom Services Performance Indicators, TRAI March, 2013

Figure 2. Market share of wireless operators.

3. Top Ten Countries in Mobile Phone Subscribers Base

Mobile phone technology has become very common in all the countries of the world. According to Merrill Lynch Global research report 2011, China has the maximum number of mobile phone subscribers i.e. 1112 million and India stands on the Second position with 865 mobile phone subscribers. (See Figure 3)

3.1 Indian Telecom Sector

India is the second largest telecom market in the world. At the end of financial year April 2013, the Subscriber base was 898.02 million. In India 85 banks were permitted to provide mobile banking services as per RBI guidelines (RBI 28, FEB, 2014). According to Reserve bank of India (RBI) data, a total of 7.7 million mobile transactions took place in October 2013; the total amount transacted also registered a significant 24.86% growth on a monthly basis to Rs 1,954 crore, up from Rs 1,565 crore reported in September 2013. In November 2013, The Telecom Regulatory Authority of India (TRAI) had set a ceiling tariff of Rs 1.50 for each outgoing USSD-based mobile banking session and had asked telecom service providers to collect the charges from their subscribers for providing this service.

In recent years, the mobile banking has been reflecting a growing trend (albeit the low volumes) with the volume and value increasing by 108.5% (53.30 million in 2012-13 vis-à-vis 25.56 million in 2011-12) and 228.9% (Rs.59.90 billion in 2012-13 vis-à-vis Rs.18.21 billion in 2011-12) respectively. The trend in usage of Mobile Banking in the last three years is given below(Table 2):

1) Mobile telephony in India has a huge potential with 873.4[4] Mn mobile connections as on 30.06.2013 in the country, of which about 350 Mn are in rural areas. The number of subscribers who access Internet by wireless phones has grown to about

Source: Merrill Lynch Global Research Dec- 2013

Figure 3. International trend of subscriber base.

Table 1. Telecom Subscribers in India

Particulars	Wireless	Wire line	Total
Total subscribers (Millions)	867.80	30.21	898.02
Total Net Monthly Addition (Millions)	6.15	-0.15	6
Monthly Growth (%)	0.71	-0.49	0.67
Urban Subscribers (Millions)	525.30	23.5	548.80
Urban Subscribers Net Monthly Addition (Millions)	4.02	-0.08	3.94
Monthly Growth (%)	0.77	-0.32	0.72
Rural Subscribers (Millions)	342.50	6.71	349.22
Rural Subscribers Net Monthly Addition (Millions)	2.13	-0.07	2.06
Monthly Growth (%)	0.63	-1.07	0.59

143 Mn. With sizeable proportion of households (41.3%) not having a bank account5, and large unbanked sections of population residing in the villages (as per Census 2011, only 54.4% of rural households had access to banking services), mobile banking offers a huge opportunity for banking industry to leverage upon the mobile density in the country.

2) The Payment Systems Vision Document 2012-15[1], reflects the commitment towards provision of safe, efficient, accessible, inclusive, interoperable and authorised payment and settlement systems in the country. The performance indicators of various payment system segments show that, during 2012-13 the share of paper-based instruments in the volume of total non-cash transactions has been lower than that of electronic payments. In addition to the growth in volume as well as value processed by RTGS, the retail electronic segment too has registered a significant growth of 35.2 percent in volume and 54.9 percent in value. Though overall volume of transactions in mobile banking is low, there has been significant growth in the volume this year as compared to previous years

4. Evolution of Mobile Commerce

Mobile Commerce in India is increasing at a very fast pace. According to TRAI[18], subscribers who access the internet through wireless phones are 143.2 Million. Mobile commerce has emerged after the introduction of electronic commerce. A simple definition of E-Commerce describes it as: "the buying and selling of products and services over the Web"[6]. E-Commerce has gained importance in the last few years. E-Commerce applications developed so far, assume basically fixed users with wired infrastructure such as PC Connected with internet using a LAN (Local Area Network). Many new E-Commerce applications are possible using wireless and mobile networks. These applications

Table 2. Usage of Mobile banking from 2010-2013

Year	No. of Users (Million)	Volume (Million)	Value (Billion Rs.)
2010-11	5.96	6.85	6.14
2011-12	12.96	25.56	18.21
	(117.45%)	(273.139%)	(196.58%)
2012-13	22.51	53.30	59.90
	(73.69%)	(108.53%)	(228.94%)

Note: figures in brackets indicate the growth over the previous year.
Source:- RBI

Rank	Country or region	Number of mobile phones	Population	Connections/100 citizens	Data evaluation date
-	World	6,800,000,000[1]	7,012,000,000[7]	97	2013[8][9]
01	China	1,229,364,000[1]	1,349,585,838[10]	89.2	December 2013[11]
02	India	904,510,000	1,220,800,359[12]	74.05	31 March 2014[13]
03	United States	327,577,529	317,874,629[14]	103.1	April 2014[15]
04	Brazil	273,580,000	201,032,714[16]	136.45	March 2014[17][18]
05	Russia	256,116,000	142,905,200[19]	179.5	July 2013[20]
06	Indonesia	236,680,000	237,556,363	99.68	September 2013[21]
07	Nigeria	167,371,949	173,615,764	96.5	Feb 2014[22]
08	Pakistan	148,800,000[23]	180,954,781[24]	77[25][26]	July 2014[27]
09	Japan	121,249,700	127,628,056	95.1	June 2013[28]
10	Bangladesh	114,608,000	165,039,000	69.5	January 2014[29]
11	Germany	107,580,000	81,882,342	131.1	2013[30]
12	Philippines	106,967,000	98,613,200	113.6	October 2013[31]
13	Iran	96,165,000	73,973,000	130	February 2013[32]
14	Mexico	92,900,000	112,322,757	82.7	Dec. 2011[33]
15	Italy	88,560,000	60,090,400	147.4	Dec. 2013[34]
16	United Kingdom	75,750,000	61,612,300	122.9	Dec. 2013[35]
17	Vietnam	72,300,000	90,549,390	79	October 2013[36]
18	France	72,180,000	63,573,842	114.2	Dec. 2013[37]
19	Egypt	92,640,000	82,120,000	112.81	Egypt Ministry of Communications & IT, August 2013[38]
20	Thailand	69,000,000	65,931,021	105	2013[39]

Figure 4. List of countries by number of mobile phones in use

According to a survey mobile phones will be more than the population of India till December 2014. (Source -)

are termed as 'Wireless E-commerce' or 'Mobile Commerce'. With the increase in the number of wireless internet subscribers and advancement in the operating systems of mobile phones, mobile commerce has reached to every nook and corner of the world.

M-Commerce is an area which is rapidly changing the way people conduct their financial transactions. Tiwari, Buse and Herstatt (2006) discussed the features of mobile Commerce. According to the author M- commerce is characterized by many unique features as compared to the conventional form of commercial transactions like: Ubiquity, Immediacy, Localization, Instant Connectivity, Proactive Functionality and Simple Authentication Procedure.

- Ubiquity: It means users can avail the services and carry out transactions independent of the geographical location ('anywhere' feature).
- Immediacy: This feature is attractive in the way users can buy the goods anytime, i.e. without a wait ('anytime' feature).
- Localization: Positioning technologies i.e. GPS (Global Positioning Services) allows companies to offer goods and services to the user as per his/her current location.
- Instant Connectivity: With the introduction of the GPRS (General Packet Radio Service) mobile users are constantly online. This feature brings convenience to the users.
- Pro-Active Functionality: M-commerce brings opportunities for the companies like push ma rketing, where users can opt for 'Opt-in advertising' so that they are informed about new products and services in the form of SMS.
- Simple Authentication Procedure: With the help of Subscriber Identity Module (SIM) and Personal Identification Number (PIN) the authentication process has become very simple.
- Simple Authentication Procedure: With the help of Subscriber Identity Module (SIM) and Personal Identification Number (PIN) the authentication process has become very simple.

5. Mobile Commerce Applications

Mobile services of similar nature can be bundled together as mobile applications (Figure 5). This study has been specifically focused on only one of the Mobile commerce application i.e. Mobile Banking.

M-commerce applications	
Application	**Examples of services offered**
Mobile banking	• Mobile accounting • Mobile brokerage • Mobile financial information
Mobile entertainment	• Mobile gaming • Download of music and ring tones • Download of videos and digital images • Location-based entertainment services
Mobile information services	• Current affairs (financial, sport and other news) • Travel information • Tracking services (persons and objects) • Mobile search engines and directories Mobile office
Mobile marketing	• Mobile couponing • Direct (context-sensitive) marketing • Organization of mobile events • Mobile newsletters
Mobile shopping	• Mobile purchasing of goods and services
Mobile ticketing	• Public transport • Sports and cultural events • Air and rail traffic • Mobile parking
Telematics services	• Remote diagnosis and maintenance of vehicles • Navigation services • Vehicle tracking and theft protection • Emergency services

Figure 5. M-Commerce Applications and Services.
Source: Tiwari, Buse and Herstatt, 2006

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6. Mobile Banking

Mobile Banking services were first offered by Kenya and Philippines in the world. M-PESA – Kenya: M-PESA is the first mobile banking solution in the year 2007 by the telecom operators Safaricom & Vodafone. It has captured the majority of the market in Kenya and is very popular among the customers. SMART Money and G-Cash Philippines: Philippines launched SMART money, which is an electronic wallet and users do most of its banking transactions through mobile only.

There is a great scope of mobile banking in India as the number of mobile users is increasing. This is because of an increase in the number of wireless internet user subscriber base in India i.e. 143.2 Million[18]. In the year 2008, 3G was launched by MTNL (Mahanagar Telephone Nigam Ltd.) and IMPS (Immediate Payment Service) was also launched in 2010. After these initiatives and developments by RBI, mobile banking services have increased many folds and RBI issued the guidelines for banks to provide mobile banking services in India in the year 2008. These are:

- Only such banks which are licensed and supervised in India and have a physical presence in India will be permitted to offer mobile payment services to residents of India.
- The services should be restricted to only to bank accounts/ credit card accounts in India which are KYC/AML compliant.
- Only Indian Rupee based services should be provided.
- Banks may use the services of business correspondents for extending this facility, to their customers. The guidelines with regard to use of business correspondent would be as per the RBI circulars on business correspondents issued from time to time.
- The 'Risks and Controls in Computers and Telecommunications' guidelines will equally apply to mobile payments.
- The "Know Your Customer (KYC)" and "Anti Money Laundering (AML)" as prescribed by RBI from time to time would be applicable to customers opting for mobile based banking service.

7. Transaction Limits in Mobile Banking

- Only Indian rupee transactions and these transactions are allowed within India only.
- Per day transaction cap of Rs.50000 has been removed by RBI, and every bank can change this cap depending upon their risk.
- Transaction without end-to-end encryption is Rs.5000/- (SMS Based).

8. Security and Authentication

The highlights of security and authentication guidelines provided by the RBI on Mobile Banking:

- The M PIN or higher standard of mechanism should be used to authenticate the mobile banking customer.
- End-to-end secure encryption mechanism should be followed in transactions.
- The bank should conduct regular information security audits on the mobile banking systems to ensure complete security.

Despite many initiatives taken in the field of mobile banking there are only 12% (17 million) users out of 143.2 million mobile phone internet subscribers who are using banking services on their mobile phones[2]. So, the main issue of research is to understand the factors which contribute to user's intention to use the mobile banking services. The purpose of this review paper is to explore the factors that influence the adoption behaviour of mobile banking services by Indian consumers.

9. Research Methodology

This paper reviews the literature by identifying different articles, reports and research papers related to mobile banking. Different models are being used by many researchers like Technology Acceptance Model (TAM), Theory of Panned Behaviour (TPB) and Innovation Diffusion Theory (IDT) and these models are very helpful in determining the adoption and demand of mobile banking services.

10. Literature Review

Mobile Banking, also known as M-Banking, can perform various functions like mini statement, checking of account history, SMS alerts, access to card statement, balance check, mobile recharge etc. via mobile phones[20]. Banks are constantly updating their technology and want to increase their customer base by reaching to each and every customer. There are many advantages of using mobile banking, such as people in the rural or remote areas can also get an easy access to mobile banking whenever required. Vinayagamoorthy and Sankar[20] have discussed about the mobile banking and according to them it is a term that is used for performing various banking transactions like fund transfer, balance check, payments etc. via mobile phones.

First mobile banking transaction services in India were offered by ICICI bank in January 2008[10] but SMS alerts started in 2005-06[2]. Wireless phone subscribers in India crossed 867.8 Million in 2013, as per TRAI (Telecom Regulatory Authority of

India Act, 1997) as compared to 261.07 in March 2008. So there is approximately 4 times increase in the number of subscribers. However, according to this report, subscribers who access the internet through wireless phones are 143.2 Million. Almost 16.5% of wireless mobile phone subscribers are using the Internet over their mobile phones. According to a Mobile banking report by Deloitte[2], 17 Million Indians are using mobile phones for banking transactions. So, approximately 2% of wireless phone subscribers are using banking services on their mobile phones. Mobile banking is still in its nascent stage in India. Therefore, identifying and understanding the factors influencing the behaviour of mobile phone subscribers is one of the fundamental requisite for development of mobile banking services in India.

Research in the field of mobile banking is at the introductory stage in India. It started in the year 2005-2006, with the introduction of short message services (SMS) of mobile alerts for transactions. Then in the year 2008, Reserve Bank of India (RBI) issued the guidelines for mobile banking transactions. In the same year MTNL (Mahanagar Telephone Nigam Ltd.) launched 3G in India. In 2010-2011 India launched its first IMPS (Immediate Payment Service (IMPS) which is an instant inter-bank (similar to NEFT) transaction that can be initiated only through mobile phones or online or through SMS. In the year 2011-12, Vodafone and HDFC bank launched m-paisa and Airtel launched Airtel Money in 5 cities in India. In 2012-13 Airtel-Axis Bank launched a mobile banking service for financial inclusion and money transfer. According to operative guidelines for banks by RBI, only those banks which are licensed and supervised in India and have a physical presence in India will be permitted to offer mobile banking services[5]. According to RBI report, there are 82 banks that are permitted by RBI to provide mobile banking services throughout the India[11] as compared to 21 Banks in the year 2010.

During the last four years, the numbers of banks providing mobile banking services in India have increased four times. But numbers of mobile banking users have not increased at the same pace. There are many challenges that Indian banks are facing for increasing the mobile banking user database like Handset operability, Security, Scalability and Reliability, Application Distribution etc. Acceptance and adoption of this innovative technology is very complex and this 'complexity' attribute is studied by various researchers and they have suggested that banks should make these services easy to use by the Indian population because Indian population is not very well versed with this upcoming technology[4,9,16].

To understand the adoption behaviour of users, many researchers have done research on the factors that helps in determining the acceptance and the attitude of users towards mobile banking. TAM (Technology Acceptance Model), TPB (Theory Planned Behaviour), IDT (Innovation Diffusion Model) (see Figure 5,6,7) have been discussed by Bhatti[3] and Sadi and Noordin[14] and they claimed that all the 13 factors i.e. Perceived Usefulness, Perceived ease of use, Personal Innovativeness, Perceived Trust, Perceived Cost, Subjective Norm, Social Influence, Self-Control, Perceived Behavioural Control, Facilitating condition, Self-Efficacy, Attitude towards use, and Intention to use M-commerce are statistically significant and by using exploratory factor analysis they concluded that the mere introduction of M-commerce is not sufficient but focus should be laid on the improvement of attributes that effect the M-Commerce adoption. Out of all the factors, perceived usefulness is found to be the critical factor thus, the service provider should take care that customers should perceive their services as valuable and useful to keep up with their fast paced lifestyle. This research also found that trust is also an important factor and should be taken into consideration by the Service providers; if consumers do not feel secure they will be reluctant to use the services[8]. It is also found that people have less trust in the mobile banking services and personal disposition to trust played a positive role in developing initial usage in mobile banking. To some extent the success of acceptance of M-commerce transactions depends on the customer as well as vendor's trust[17]. Kim, Shin, and Lee[8] and AL-Majali and Mat[1] also discussed that if customers believe that a mobile banking firm is able to develop effective service delivery strategies and provide adequate protection from fraud and violation of privacy, then adoption (or continue-to-use) intentions of the mobile phone users will increase.

Facilitating Condition is also an important attribute of consumer behavioural control towards intention to use; therefore it is necessary to improve the facilitating conditions of mobile application services like connection speed, secure systems and easy transaction method[14]. Bhatti[3], used all the three models TAM, TPB and IDT and found out that the perceived ease of use, perceived usefulness, subjective norm, personal innovativeness and perceived behavioural control are strong determinants of the intention to adopt M-commerce. The study has revealed that subjective norms and perceived behavioural control impact perceived ease of use and intention to adopt mobile commerce. Perceived control of users can be increased by offering them free use of service for a short period of time. Rapid adoption of technology, because of its social influence, is studied in terms of subjective norms and it is found to be a significant factor as the behavioural intention is very much affected by peer group influence.

Chaipoopirutana et al.[4] and Lin[9], claimed that the adoption of mobile banking is 'complex' as it has the negative relation with intention to adopt mobile banking. In this paper they have discussed the Roger's (1995) innovation diffusion model's attributes: complexity, compatibility, relative advantage and trialability and found that Relative advantage, compatibility,

ease of use (opposite of complexity) has a significant effect on attitude to adopt mobile banking services. They have also suggested that complexity must be reduced in order to increase the number of adopters in internet banking and compatibility has a positive relation with the adoption of internet banking. It implies that banks should start advertising their internet banking services to the consumers so that they can relate it to their values, beliefs and experiences of the adopters. Customers have a favourable attitude towards adopting mobile banking services, if they have positive belief about the relative advantage of mobile banking. Relative advantage refers to the degree to which a technology provides more benefits than its precursor[12].

Samudra and Phadtare[13] used the UTUAT model (see Figure 8) to investigate the adoption of mobile banking services and findings suggests that mobile banking services should be promoted to middle level managers whose salaries are in the range of 1-6 lacs and the age group is 25-30 as this is the most active age groups of 3G mobile. In UTUAT model, five factors are used to study the adoption of mobile banking: Performance expectancy, Effort expectancy, Social Influence, Facilitating Conditions and Voluntariness. Facilitating conditions seem to dominate in this study. As we make easy to use services the adoption rate will increase. Creating awareness about the services is also important as discussed by many other researchers[9,15].

Cost as an attribute has been studied by Sadi and Noordin[14], this study found out that perceived cost is also an important factor and has negative relation with the intention to adopt mobile banking services; therefore, this study suggests that the creative promotional and pricing strategies, including cost reduction should be implemented to attract more price-conscious customers. Singh, Srivastava, and Srivastav[17], also argued that the financial cost incurred has a negative effect on the intention to use mobile banking.

Researchers have come across many different models that help them in determining the important factors that affect the attitude and intention of the mobile banking users. In the next section those models have been discussed.

11. TRA, TAM, TPB, IDT and UTUAT Model

There are various models that help in study of adoption behaviour of mobile banking services. These models include various attributes that judge the intention of the mobile banking user and his/her attitude towards it. These models are: 1) Theory of Reasoned Action (TRA) 2) Technology Acceptance Model (TAM) 3) Theory of Planned Behaviour (TPB) 4) Innovation Diffusion Theory (IDT) 5) Unified Theory of Acceptance and Use of Technology Model (UTUAT).

11.1 Theory of Reasoned Action (TRA)

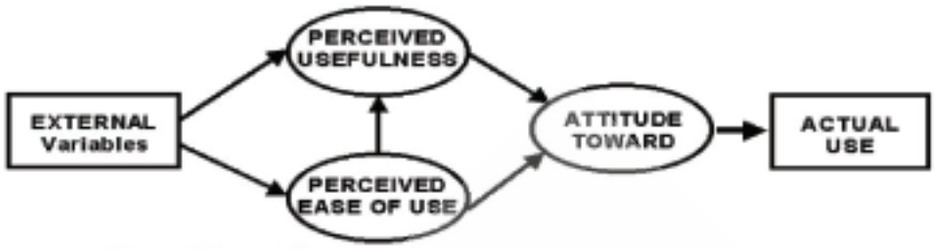
In the model proposed by Fishbein and Ajzen (1975) (Figure 6) it was suggested that person's actual behaviour can be determined by the behavioural intention along with the belief and subjective norms that the person has for the behaviour. Subjective norms refer to "an individual's perception of other's opinion about his/her particular behaviour, if he should perform a particular behaviour or not" and attitude towards action is defined as a person's positive or negative attitude towards this performed behaviour. Thus, TRA is a useful model that can explain the actual behaviour of an individual. In 1985 Davis took the same model and extended it to the TAM and linked it to the user acceptance of an information system.

11.2 Technology Acceptance Model (TAM)

Technology Acceptance Model (TAM) proposed by Fred Davis in 1986 (Figure 7). Davis (1986) defined Perceived usefulness as "The degree to which an individual believes that using the particular system would enhance his or her performance" and

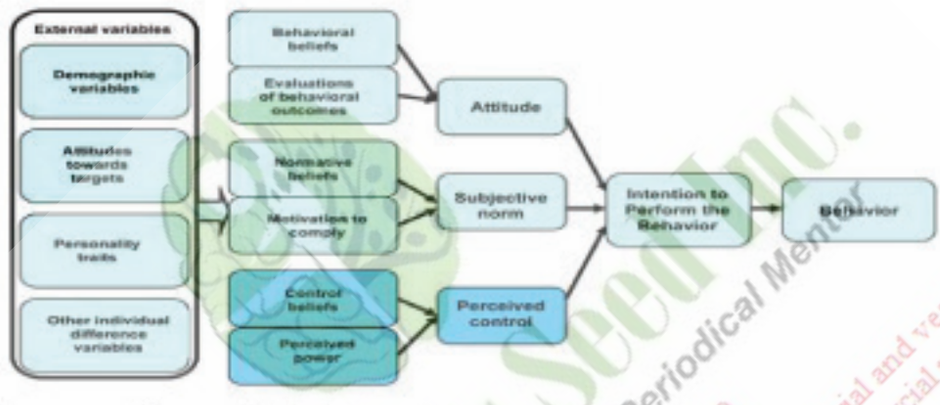
Source: Fishbein and Ajzem, 1975

Figure 6. Theory of reasoned action.



Source: Davis 1986, p. 24

Figure 7. Technology Acceptance Model Propped by Fred Davis.



Source: Ajzen, 1991

Figure 8. Theory of Planned Behaviour.

Perceived ease of use is defined as "the degree to which a person believes that using a particular system would be free of effort". According to him attitude of the user towards the acceptance of new technology or information system is determined by perceived usefulness and perceived ease of use.

11.3 Theory of Planned Behaviour (TPB)

Theory of Planned Behaviour is an extension to TRA, it (Figure 8) has taken into account one additional construct i.e. Perceived Behavioural Control (PBC). Perceived behavioural control refers to the people's perceptions of their ability to perform a given behaviour in a controlled manner. PBC is further influenced by control beliefs and perceived Power or perceived facilitation. Control beliefs refer to the perceived presence of those factors that may facilitate or impede the performance of behaviour. Perceived power specifies the power to have the resources that are required to use a specific system.

11.4 Innovation Diffusion Theory (IDT)

Rogers[12] described the innovation-diffusion process as "an uncertainty reduction process" and he proposes attributes of innovations that help to decrease uncertainty about the innovation. Attributes of innovations include five characteristics of innovations:

- Relative advantage
- Compatibility
- Complexity
- Trialability
- Observability

Rogers[12] stated that "individual's perceptions of these characteristics predict the rate of adoption of innovations". Rogers[12] defined the rate of adoption as "the relative speed with which an innovation is adopted by members of a social system", Relative advantage as "the degree to which an innovation is perceived as being better than the idea it supersedes", "compatibility is the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of potential adopters", complexity as "the degree to which an innovation is perceived as relatively difficult to understand and use" (p. 15), "trialability is the degree to which an innovation may be experimented with on a limited basis" (p. 16), observability as "the degree to which the results of an innovation are visible to others" (p. 16).

To summarize, Roger argued that innovations that offer a more relative advantage, compatibility, simplicity, trialability, and observability will be adopted much faster as compare to others.

11.5 Unified Theory of Acceptance and Use of Technology Model (UTUAT) Model

This model is based on the theories of individual acceptance that are synthesized by Venkatesh, Morris, Davis, & Davis[19] include the Theory of Reasoned Action (TRA), Technology Acceptance Model (TAM), Motivational Model (MM), Theory of Planned Behaviour (TPB), Model Combining the Technology Acceptance Model and Theory of Planned Behaviour (C-TAM-TPB), Model of PC Utilization (MPCU), Innovation Diffusion Theory (IDT), and Social Cognitive Theory (SCT).

Venkatesh[19], (Figure 9) defined Performance expectancy as the degree to which an individual believes that using the system will help him/her to attain gains in job performance, Effort Expectancy as the degree of ease associated with the use of the system, Social Influence as the degree to which an individual perceives that important others believe he or she should use the new system and Facilitating Conditions as the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system.

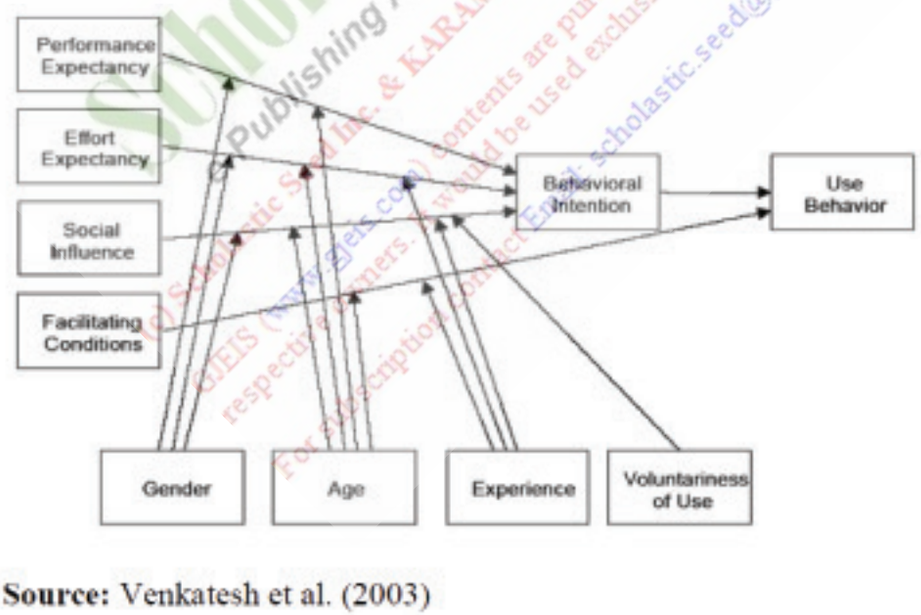
12. Discussion and Conclusion

In the backdrop of above reviewed literature, it can be seen that the adoption of mobile banking services in India is just 2%. So it becomes important for the service providers to increase the rate of adoption of mobile banking users.

Through the literature review some important points have been highlighted. It includes:

- Banks should create awareness about the mobile banking services through Advertisements, Pamphlets, Demo Fares, Campaigning etc. so that the customer feel informed and it may create interest among them. Samudra and Phadtare[13], claimed that the footfalls at ATM centres is likely to be very high, the campaigns may be carried out at these locations to attract more customers towards these services.
- Trust is also an important point of concern. Trust between the customers and the service provider is very important, without security and privacy users will not use mobile for financial transactions.
- Perceived ease of use and perceived usefulness are found to be important factors to influence the consumer intention to adopt mobile banking. Hence, the main attention of management should be focused on the development of usefulness of system, trust building and cost reduction.
- Perceived cost is also an important factor; therefore, this study suggests that the creative promotional and pricing strategies, including cost reduction should be implemented to attract more price-conscious customers.
- It is also found that customers will adopt mobile banking if they find it easy to use and understand.

The users who are using banking services on their mobiles are highly satisfied ones, because of several reasons.



Source: Venkatesh et al. (2003)

Figure 9. Unified Theory of Acceptance and Use of Technology Model.

The first reason is the availability of facilities of balance checking, access to account and card statement, checking recent transactions, ordering of cheque books, blocking of lost cards, etc. In the earlier times customers used to stand in the long queue in banks for money transfer, money deposit etc. but now mobile banking is providing facilities of anytime and anywhere banking. Security in the mobile banking services is also enhanced by the introduction of OTP i.e. one time password service in their mobile phones. Before the completion of any transaction you need to enter the OTP that is generated by the bank while the user is trying to initiate any mobile banking transaction and it is generated for one time use only as it expires after single use.

The above review shows that to fulfil the expectations of the consumers and to increase the mobile banking users, mobile banking service provider needs to increase the awareness about the mobile banking services. Banks and the mobile service providers need to come together to bring a revolution in the field of mobile banking.

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APPENDIX

Comparison of Models

Table 1: Comparison of Models

Models and Theories	Constructs
Theory of Reasoned Action (TRA) by Fishbein and Ajzen (1975) derives from psychology to measure behavioural intention and performance.	Attitude Subjective norm
Technology Acceptance Model (TAM) by Davis (1989) develops new scale with two specific variables to determine user acceptance of technology.	Perceived Usefulness Perceived Ease of Use
Theory of Planned Behaviour (TPB) by Ajzen (1991) extends TRA by including one more variable to determine intention and behaviour.	Attitude Subjective norm Perceived Behavioural Control
Combined TAM and TPB (C-TAM-TPB) by Taylor and Todd (1995).	Perceived Usefulness Perceived Ease of Use Attitude Subjective norm Perceived Behavioural Control
Innovation Diffusion Theory (IDT) by Rogers (1962) is adapted to information systems innovations by Moore and Benbasat (1991). Five attributes from Roger's model	Relative Advantage Compatibility Complexity Observability Trialability
Unified Theory of Acceptance and Use of Technology Model (UTAUT) by Venkatesh et al. (2003) integrates above theories and models to measure user intention and usage on technology	Performance Expectancy Effort Expectancy Attitude toward Using Technology Social Influence Facilitating Conditions Self-Efficacy Anxiety

Source: Empirical Validation of Unified Theory of Acceptance and Use of Technology Model (Thanapom Sundaravej)

Global Journal of Enterprise Information System

Impact of Modern Communication Technology on Indian Postal System

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Abstract

India Post has touched the lives of every citizen for more than 150 years, be it through mails, banking, insurance money transfer or retail services. It has enjoyed the trust and support of its customers and stakeholders from the very beginning. With the of growth of telephone, internet and modernised banking services, customers are now exposed to new level of speed, transparency and quality. In India, customers of the postal service expect Department of Posts to provide a service level similar to industry standards maintained by banks, insurance, express industry, etc or other private agencies. In this era of globalization, lots of challenges are imposed on Indian Post office. This paper analyse the impact of Internet on Indian Post along with SWOT analysis of this sector.

1. Introduction

Since time immemorial the Kings have maintained channels of Communications for their exclusive use, for receiving and sending the news of political and economic importance. The earliest references to transmission to messages are found in the sacred lore in the ancient scriptures of India. The earliest of these is in the Atharva Veda, one of the four Vedas, the supreme and the first scripture. Later Ramayana and Mahabharata, two of the greatest epic, mention of the transmission of messages.

A large establishment for the transmission of messages is recorded for Mauryan Emperor Chandragupta in 322 BC. Ibn Batuta, the Moroccan traveler to India in 1310 AD had detailed the mail system of Sulatn Mohammed bin Tughlaq. Massive reorganization of this system took place under Sher Shah Suri. It was developed and maintained under the Mogul and later rulers.

The traders, whom the rulers allowed the use of royal mail at times, felt the need for regular message service as the first priority of royal mail could be for the rulers only. Big traders have known to operate postal services from 14th century AD that also accepted mail from others for a fee. During 17th century AD several postal systems under the patronage of various rulers and traders were in vogue. The East India Company first used these services for exchange of mail between their trading centres in India.

The Company decided to setup their own postal service-company Dawk in view of the increasing trade activity and their requirement of intelligence of military nature. In 1688 the first post office of the Company Post was established at Bombay/ Madras. Lord Robert Clive, the Governor of Bengal in his second term, ordered for better regulations of the dawks in 1766. Warren Hastings, the first Governor General of Bengal with supervisory powers over Bombay and Madras, reorganized the system and opened the service to public in 1774. A Postmaster General was appointed and metal tickets or tokens were issued to pay for the postal charges. The presidencies of Bombay and Madras followed suit. In 1835 a Committee was set up for unification of customs and postal system of all the presidencies. The result was the first Indian Post Office Act of 1837. It not only provided for uniform rates and routes but for the uniform designs and other specifications of the postmarks for each category of post office. A Commission was setup in 1850 and submitted its report in 1851 that resulted in the post office act of 1854. It took three years primarily due to one of the recommendations of the Commission for introduction of adhesive postage stamps as the Company insisted on producing the stamps in India and Indian authorities wanted it printed in England. Under the provisions of this act the monopoly of carrying mail in entire area of British possessions in India were granted to Indian Post office and office of the Director General of Post Offices of India was established. Mr. H P A B Riddle, till then the Postmaster General of North West Presidency, was appointed the first Director General in May 1854. The adhesive stamps were introduced on October 1, 1854 on all India basis. Meanwhile in 1852 adhesive postage stamps were issued for use within the province of Sind, now in Pakistan. These were the first adhesive postage stamps in Asia. In 1866 the postage stamps for government mail were introduced. Now Indian post office has a diversified portfolio as shown below-

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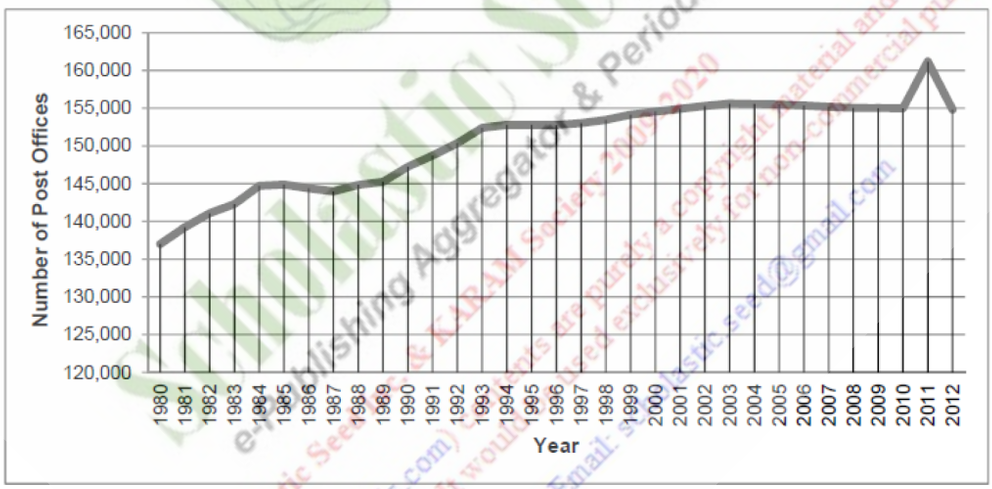
Table 1. Diversified portfolio of India post

Platform	Area	Description
Non-mail Services		
Transportation	Parcel Services	Express and deferred services
	Logistics	Contract and brokerage logistics
Retail Services	Retail	Selling of consumer durables and other fast-moving-consumer-goods products
	Banking	Money transfer, bill payment, retail banking, resale of financial services (e.g., insurance and mutual-fund products) Decision to expand post offices into fully fledged banks is under consideration
	Insurance	Postal-insurance schemes
Advertising Services	Media Post	Lending space to corporations for advertising their products on letter boxes, vans, inland letters and envelopes
Emerging Services	E-commerce	Hybrid mail, provision of cyber cafes (current decision in progress)
Government Services	Survey-based Services	Collection of data for Consumer Price Index
Mail Services	Document-management Services	Logistics Post, Business Post, Mobile Post Office Service, Speed Post and EMS

Source: Adapted from Universal Postl Union 2013.

Table 2. Number of post offices in India (1980–2012)



Source: Adapted from Universal Postal Union, 2013, www.pls.upu.int/pls/ap/ssp_report.main?p_language=AN&p_choice=BROWSE, accessed March 23, 2013.

2. Challenges Posed on Indian Postal System

In 1995 the new information technology, posed lots of challenges to Indian Postal system. Need for change is driven by the following external forces:

2.1 Globalization

Threatened the monopoly of post office. High pace of economic growth opens opportunities for expansion by multinationals. It also opens up India Post's formerly protected internal market to competition from multi-national providers with international brand images, deep pockets and experience in modern and technologically driven methods of doing business.

2.2 Entry of the Private Sector

With the liberalization, the private sector have entered in this sector leading to competition. Multi-national providers are providing high priced and speedy service in mail delivery. The low priced services offered by domestic couriers are under cutting India post's business.

2.3 Growth of Telephony

The growth and popularity of telephone – especially mobile telephone – services has affected the traditional letter mail business. Gone are the days, when people rely on letters for commuting with each other. Only Govt organization are now using this mode.

2.4 Focus on Inclusive Growth

The financial inclusion policy of the Government is pushing banks to devise new and cost effective ways of penetrating rural population. Unless India Post moves fast to occupy this space and offer its platform to the banking system at large, it may lose the opportunity of being the best agency for providing the platform.

2.5 Higher Level of Delivery Standards

The economy is now almost entirely commercialized and the speed with which communications and other transactions need to be executed with high degree of reliability is now measured in real time. The requirement for such services and products with improved features of accessibility, transparency, reliability and speed are clearly apparent in the market place. In this context, India Post has to enhance the quality – in speed and reliability - and offer the best value for its products and services.

2.6 Developments in Other Postal Administrations

A number of postal administrations have successfully modernized themselves. There is a risk of losing customers of the advanced countries to other service providers in the country, if expected levels of service are not maintained by India post. These challenges have led to deficit to Indian Postal system (Table 3).

3. SWOT Analysis of Indian Postal System

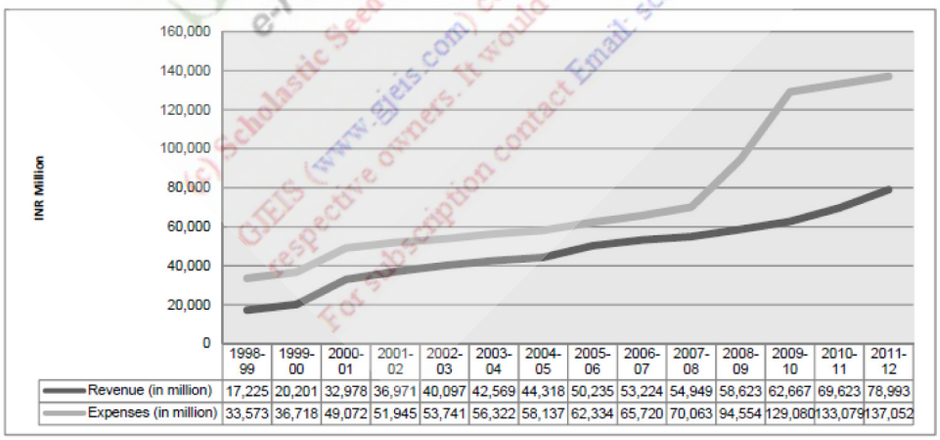
3.1 Strengths

1. Post offices are spread throughout the country.
2. It has an extraordinary goodwill among the people.
3. One of the oldest institutions of the Government of India.
4. Workforce of rural post office is mainly local and is known to local customs.
5. Large and skilled manpower.
6. Products and services which are suitable for the average citizen like daily delivery on doorstep, delivery in cash at doorstep for money orders, small transactions in Post Office Savings Bank, etc is available.
7. Operations are funded by the Public Exchequer.

3.2 Weaknesses

1. Legal issues are include in converting a 150 year old government department to deliver quality of services and products in competition with the private sector.
2. Infrastructure is inadequate to compete with private sector.
3. Due to limited use of technology, customers are unable to get full benefits of IT induction in order to track and trace the pos etc.
4. Customers have a perception of poor service.
5. Large number of private players and substitutes operate in the market where once only India Post operated.
6. Partial modernisation and automation lead to lack of standardisation.
7. Due to ban on recruitment in the last five years , ageing workforce with little knowledge of modern technology is increasing.

Table 3. Revenue less expenditure deficit of India post



	1998-99	1999-00	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
Revenue (in million)	17,225	20,201	32,978	36,971	40,097	42,569	44,318	50,235	53,224	54,949	58,623	62,667	69,623	78,993
Expenses (in million)	33,573	36,718	49,072	51,945	53,741	56,322	58,137	62,334	65,720	70,063	94,554	129,080	133,079	137,052

Source: Adapted from Universal Postal Union, 2013, www.pls.upu.int/pls/ap/ssp_report.main?p_language=AN&p_choice=BROWSE, accessed March 23, 2013.

8. Poor monitoring systems and ineffectual internal marketing lead to lackness of performance based culture.
9. Lack of scientific costing has resulted in lack of awareness of cost of products and services.

3.3 Opportunities

1. Indian Post Office can incrementally expand its network and reach by exploring the franchisee and outsourcing models in a cost effective manner and enable the inclusion of many residents currently not being served or ill served - mainly in rural areas.
2. Focus on inclusive growth by the Government provides an opportunity to leverage the network for last mile delivery.
3. Sustained growth in the economy means more business which provides opportunity for a variety of products such as Direct Mail, e-Commerce, B to C mails, parcels and logistic services etc.
4. There is untapped potential in terms of money transfer for migrant population, small businesses which cater to all India market, mail services for recruitment by organisations and transactional B to C mails.
5. India Post is presently implementing its three flagship projects - India Post 2012 for networking and IT induction in all post offices, Project Arrow for improving the look and feel of post offices and Mail Network Optimisation Project for optimising the network from collection to delivery and standardising the processes.

3.4 Threats

1. The main threat is of an underestimation of the value , potential and the extraordinary opportunities present within extensive network of India Post.
2. The entry and expansion of private sector and other public sector operators in communications, mail, banking and insurance sectors .
3. India Post and its employees may be unwilling or unable to meet the challenges it faces and seize the opportunities presented to them.

4. Conclusion

Indian postal system is not able to catch the large opportunity in the market due to not adopting the new changing technology in a rapid rate. The Indian postal system is also facing huge competitors from private sector who are ready to change and adjust quickly. To be viable in the future this large postal network of India has to formulate strategy so that the modern communication technology can be used with the strength of the postal system along with the opportunities present in the market.

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Human and Gender Development: Global comparison

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Abstract

Globalization is playing an important role in the development of human resource, equally in developing and developed countries. It is important to know the impact of globalization on the human resource of India in comparison to other countries of the world. This paper tries to compare the impact of globalization on HR development in India.

1. Introduction

Globalization refers to the growing interdependence of countries resulting from the increasing integration of trade, finance, people, and ideas in one global marketplace. International trade and cross-border investment flows are the main elements of this integration. Globalization started after World War II but has accelerated considerably since the mid-1980s, driven by two main factors. One involves technological advances that have lowered the costs of transportation, communication, and computation to the extent that it is often economically feasible for a firm to locate different phases of production in different countries. The other factor has to do with the increasing liberalization of trade and capital markets.

1.1 Globalization Encompasses the Following Features

1. Operating and planning to expand business throughout the world.
2. Erasing the difference between domestic market and foreign market.
3. Buying and selling goods and services from/ to any country in the world.
4. Establishing manufacturing and distribution facilities in any part of the world based on the feasibility and viability rather than national consideration.
5. Product planning and development are based on market consideration of the entire world.
6. Sourcing of factors of production and inputs like raw materials, machinery, finance, technology human resources, managerial skills from the entire globe.
7. Global orientation in strategies, organisational structure, organizational culture and managerial expertise.
8. Setting the mind and attitude to view the entire globe as a single market.

2. Globalisation Process

Globalisation does not take place in a single instance. It takes place gradually through an evolutionary approach. According to Ohamae, globalisation has five stages, they are-

1. Domestic company exports to foreign countries through the dealers or distributors of the home country.
2. In the second stage, the domestic company exports to foreign countries directly on its own.
3. In the third stage, the domestic company becomes an international company by establishing production and marketing operations in various key foreign countries.
4. In the fourth stage, the company replicates a foreign company in the foreign country by having all the facilities including R&D, full- fledged human resources etc.
5. In the fifth stage, the company becomes a true foreign company by serving the needs of foreign customers just like the host country's company serves.

3. Impacts of Globalization on National Economies

Globalization has had significant impacts on all economies of the world, with manifold effects. It affects their production of goods and services. It also affects the employment of labour and

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other inputs into the production process. In addition, it affects investment, both in physical capital and in human capital. It affects technology and results in the diffusion of technology from initiating nations to other nations. It also has major effects on efficiency, productivity and competitiveness. Several impacts of globalization on national economies deserve particular mention. One is the growth of foreign direct investment (FDI) at a prodigious rate, one that is much greater than the growth in world trade. Such investment plays a key role in technology transfer, in industrial restructuring and in the formation of global enterprises, all of which have major impacts at the national level. A second is the impact of globalization on technological innovation. New technologies, as already noted, have been a factor in globalization, but globalization and the spur of competition have also stimulated further advances in technology and speeded up its diffusion within nations through foreign direct investment. A third is the growth of trade in services, including financial, legal, managerial, and information services and intangibles of all types that have become mainstays of international commerce. In 1970, less than a third of foreign direct investment related to the export of services, but today that has risen to half and it is expected to rise even further, making intellectual capital the most important commodity on world markets. As a result of the growth of services both nationally and internationally, some have called this "the age of competence," underscoring the importance of lifelong education and training and the investment in human capital in every national economy.

4. India's Global Position

As per the latest available Human Development Report (HDR) 2011 (Table 1) published by the United Nations Development Programme (UNDP) which estimates the human development index (HDI) in terms of three basic capabilities: to live a long and healthy life, to be educated and knowledgeable and to enjoy a decent economic standard of living, the HDI for India was 0.547 in 2011 with an overall global ranking of 134. The growth rate in average annual HDI of India between 2000- 2011 is amongst the highest, a finding also corroborated by the India Human Development Report (IHDR) 2011 brought out by the Institute of Applied Manpower Research and the Planning Commission. According to the IHRD, HDI between 1999- 2000 and 2007-8 has increased by 21 percent, with an improvement of over 28 percent in education being the main driver. India is ranked 129 in terms of the gender inequality index (GII) which captures the loss in achievement due to gender disparities in the areas of reproductive health, empowerment, and labour force participation. The gross national income (GNI) per capita ranking minus HDI ranking for India is -10 indicating that India is better ranked by GNI than by non- income HDI value computed from life expectancy and education .

Table 1. India's Global Position in Human Development 2011

Country	HDI		Average Annual HDI Growth Rate (per cent)		GNI per capita (constant 2005 PPP $)	GNI per Capita Rank minus HDI rank	Non-Income HDI Value	GII	
	Value	Rank	1990-2011	2000-2011				Value	Rank
Norway	0.943	1	0.53	0.29	47,557	6	0.975	0.075	6
Australia	0.929	2	0.30	0.23	34,431	16	0.979	0.136	18
Brazil	0.718	84	0.86	0.69	10,162	-7	0.748	0.449	80
China	0.687	101	1.62	1.43	7,476	-7	0.725	0.209	35
Shri Lanka	0.691	97	0.81	0.80	4,943	12	0.768	0.419	74
Thailand	0.682	103	0.89	0.78	7,694	-14	0.714	0.382	69
Philippines	0.644	112	0.58	0.62	3,478	11	0.725	0.427	75
Egypt	0.644	113	1.24	0.88	5,269	-6	0.686	NA	NA
Indonesia	0.617	124	1.19	1.17	3,716	-2	0.674	0.505	100
South Africa	0.619	123	0.03	0.05	9,469	-44	0.604	0.490	94
Vietnam	0.593	128	1.50	1.06	2,805	8	0.662	0.305	48
India	0.547	134	1.38	1.56	3,468	-10	0.568	0.617	129
Pakistan	0.504	145	1.12	1.33	2,550	-7	0.526	0.573	115
Bangladesh	0.500	146	1.69	1.55	1,529	11	0.566	0.550	112
World	0.682		0.66	0.66	10,082		0.683	0.492	

Source: World HDR 2011
Note: NA: Not Available, Data refer to 2011 or the most recent year available; PPP is purchasing power parity

However , India's expenditure on health as a percent of GDP is very low compared to many other and developed countries. Unlike most countries, in India private- sector expenditure on health as a percentage of GDP is higher than public expenditure and was more than double in 2010. Despite this the total expenditure on health as a percentage of GDP is much lower than in many other developed and emerging countries and the lowest among BRICS (Brazil, Russia, India, China, South Africa) (Table 2).

Table 2. Expenditure on Health in Developed and Emerging Economies (as percentage of GDP)

Country	Expenditure on health (2010 or latest available year)		
	Public	Private	Total
Australia	6.2	2.9	9.1
Norway	8.1	1.4	9.4
United Kingdom	8.0	1.6	9.6
United States	8.5	9.1	17.6
Mexico	2.9	3.3	6.2
Indonesia	1.3	1.3	2.6
Brazil	4.2	4.8	9.0
Russian Federation	3.2	1.9	5.1
India	1.2	2.9	4.1
China	2.7	2.4	5.1
South Africa	3.9	5.0	8.9

Source: OECD Fact book 2013: Economic, Environmental and Social Statistics.

Globalisation must include major dimensions of inclusive development like poverty alleviation, employment generation, health, education, women's employment, and social welfare besides reviewing the progress of important government programmes.

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Impact of World Trade Organization on Indian Textile Industry

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Abstract

No country in the world is self-sufficient. Therefore, there is need to trade with others. Economy was protected from external competition due to licensing system and high level of tariff.

In early 1990's with the birth of World Trade Organization (WTO) India started the process of liberalization of trade. WTO's objective is to ensure new open world trading system to benefit consumers. The Most Favoured Nation clause of WTO was in clash with the Multi Fibre Agreement (MFA), which placed quantitative restrictions on textile exporting countries. Hence MFA was gradually phased out by December 31, 2004.

The phasing out of Multi Fibre Agreement (MFA) was expected to result in an increase in the growth of output, efficiency, productivity and competitiveness of the textile sector.

The impact of abolition of MFA is studied with regard to export of yarn, fabric, and garments during MFA and Post MFA period. It has been concluded from the observations that the export of textile intermediates (i.e. yarn and fabric) and textiles and clothing have increased substantially after the abolition of MFA.

Keywords: General Agreement on Tariff and Trade, World Trade Organization, Most Favoured Nation, Multi Fibre Agreements, Quantitative Restriction, Agreement on Textile and Clothing.

1. Introduction

1.1 Impact of World Trade Organization on Indian Textile Industry

Today no country in the world is self-sufficient in the sense that it does not possess facilities for economical production of all the goods and services that are consumed by its people. Probably no country can produce all the goods that it needs. Therefore, there is need to trade with others. Developing countries need more goods to feed a rapidly growing population. Exports can be a leading sector in growth. India cannot remain in isolation in today's world, even in the matter of development of its own economy, Economy was protected from external competition due to licensing system and high level of tariff.

At the start of 1990's decade India faced balance of payment crisis which forced India to start the process of trade liberalization. The policy undertaken aimed to derive a better export performance by making domestic industry cost-efficient under international competition. The following changes were made in export import policy during post 1991 period, procedures were made simplified, quantity restrictions were removed, and tariff rates were substantially reduced.

For first three decades trade policy regime adopted an inward looking development strategy identified by importance to public sector, restrictive private sector, control on foreign investment and barriers including tariff and non-tariff type was replaced by new open economic policies in 1991.One of the vital economic factor of development with new economic policy is international trade and the same is guided by World Trade Organization (WTO), The Multi Fibre Agreement (MFA)which was against the basic principles of world trade organization has to be removed in December 31, 2004. This opened up a lot of opportunities for the textile sector in the field of productivity, efficiency and competitiveness.

1.2 Literature Review

The topic of impact of World Trade Organization on Indian industry and liberalization policy has been of great interest to various authors.

Ahluwalia[1] studied productivity growth in the Indian manufacturing sector. She concluded that the protective impact of

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import substitution dominates any market expanding impact on productivity growth.

Subramanian M.S[2] suggested that for the better performance of textile industry various steps should be taken such as skill improvement textile labour, cordial industrial relations and adoption of state-of-art technology.

Das[3] has observed that a country's openness leads to improvements in domestic technology; helps the production process became more efficient and culminates in productivity improvements.

Chandra[4] recorded that the trends in international textile trade is bound to change substantially after the expiry of MFA regime. The capability of textile industry is going to improve due to textile policies which are going to benefit the most.

Goldar and Anita Kumari[5] studied that underutilization of industrial capacity was an important cause of the productivity slowdown.

Arvind Panagariya[6] observed that liberalization was introduced way back in 1980s and it started in vitalizing growth but the growth was nominal and was not very sustainable. The more systematic reforms of the 1990s, resulted in more sustainable growth.

Rani and Unni[7] have shown that value added in the organized manufacturing sector registered an impressive growth rate of 8.25 per cent during 1989-95 as compared to 1984-90 at 7.20 per cent and 1994-2000 at 6.94 per cent. The analysis indicates that economic reform policies have differential impact on various industry groups.

Shanthi Venkataraman[8] saw the Indian textile industry waking up from a prolonged period of hibernation. Suffering from overcapacity, outdated technology, labour problems and debt levels that strained profits, the industry has taken a long time to get its act together.

Vijay Venkataswamy[9] observed that the Indian textile industry, which has a tradition of over 5000 years, is on the verge of creating history. If the industrialization of its colonial masters reduced the status of Indian textiles as glorified converters, the rule based trading symbolized by the World Trade Organization is expected to propel Indian textiles as a global clothier, second only to China as of now.

The developed countries place bilateral quota on imports of textile and garment under the Multi-Fiber Agreement (MFA) of 1974 removing the restrictions from General Agreements on Tariff and Trade (GATT). This system was introduced to protect local producers to compete with cheaper imports. It was agreed in Uruguay Round to the implement the Agreement on Textile and Clothing (ATC) and further removes the MFA from January 1, 2005. The MFA was fully phased out and hence the trade in textiles and garments will no longer be subject to quotas (Hashim[10]).

Seshaiah et al.,[11] observed that the pre-liberalization growth in productivity was more than that of the post-liberalization. He found the entrepreneurial skill ratios as very low and sometime negative during the study period which is one of the factors that influenced productivity.

Bhandari and Maiti[12] found that individual technical efficiencies vary due to size and age of the firm. They also measured the technical efficiency which has averaged between 68-84 per cent. Further, it was also found that in the post-liberalization period public sector firms were not efficient.

Kaur[13] aggress that reforms introduced a new opportunity of growth and development. The overall growth rates not only increased by liberalized policies adopted since 1991-92 but foreign investors also developed confidence in the Indian industry.

Chaudhary et al1[14] observed Indian fiber market after removal of the quota system under the Multi-Fiber Agreement (MFA). The effect of removal quota system under MFA was studied. The results shows the increase in cotton imports and decrease in export of man-made fiber with the liberalization in restrictions in developed countries. The world cotton priceswere not affected by the higher cotton imports from India.

Sasidaran and Shanmugam[15] studied the efficiency of the companies of textile industry to know the impact of international textile business, after removal of the Multi-Fiber Agreement (MFA) in 2005. The results of the study indicating the presence of inefficiency in inputs which resulted in the declined of average efficiency over the years. They further inferred that the Indian textile companies could not improve their inputs efficiency after the opportunity provided by the liberalization, if this could have been done, they would have faced the competition from other international players like China.

Anbumani et al[16] examined the efficiency of Indian Textile industry on technical parameter during 2000-07 to know the implication of new textile policy (2000) and post- MFA regime. They found the efficiency on technical parameters is declining during 2000-07. Inferring that the new textile policy had a negative impact on technical efficiency of Indian Textile Industry.

Kannan and Raveendran[17] pointed out that, during the post-reform period all the manufacturing industries have done well in terms of output growth, many of them thriving with double digit growth rates.

Kasi[18] has shared result on the effect of liberalization on growth productivity and competitiveness of the textile sector. According to him the industry registered a healthy overall growth rate of 6.13%.

Tahir & Mughal[19] observed India has flourished and excelled in textile industry due to factors such as inexpensive skilled human capital, abundance of cheap raw material, availability of diverse varieties in cotton fiber, a big opportunity in trade both

nationally and internationally. These factors have put India in the world textile map as a majour player.

Zala[20] has observed that Indian Garment Industry has yet to make its presence felt in the high value addition garments while it has gain some importance in low value addition products. The products are of low quality and most of the machinery is not automated. The garments producers in India are mostly in the small-scale sector, they cannot go on large scale production and they also ill-equipped to meet the change in trends of the fashion world. The industry has a fairly large lead time in bringing its products to the consumer; this has got to be reduced. The Indian garment industry can become competitive by switching over to latest techniques. The Indian garment industry has to compete with the international brands that are looking for the opportunity to have a share in the work garment market. Huge domestic demand presents an opportunity to the garment producers to tap India's growing, sophisticated and increasingly fashion conscious middle class.

With the introduction of Business Process Outsourcing, the big retail chain owners of US and Europe are cutting their cost by outsourcing from India.

2. Observations

2.1 World Trade Organization (WTO)

In 1948 General Agreement on Tariffs and Trade (GATT) was founded by 23 countries, including India was genesis of WTO. Uruguay Round, of talks under GATT (1986-1994), led to birth of WTO on 1st January 1995. The issues related to goods trade were covered under GATT till then. As of 2010, WTO has 153 members with, headquartered at Geneva, Switzerland. GATT and WTO has India as its one of the founding member. The 97 per cent of world trade are conducted by the member countries of the WTO. China and Vietnam has recently joined as members. WTO's objective is to ensure free, transparent and predictable trading regime in the world as it is the only regulatory body of world trade. The agreements of WTO are approved by the member countries. WTO is not controlled by any individual country. The decisions are taken by the member counties through their designated ministers. It is a forum for trade negotiation. A set of rules govern global trade. It has established an elaborate mechanism to settle trade disputes among member countries.

Article-XI of the GATT, 1994 prohibits restrictions other than duties, taxes and other charges with regard to trade. It recognises only tariff as a legitimate instrument of commercial policy for the regulation of trade. Thus, Quantitative Restrictions (QRs) are prohibited as a rule for both imports and exports. A country may impose QRs, if it faces shortage of food grains, for reasons of security and public health, or has an adverse balance of payments position.

2.2 Basic Principles

Trade without discrimination

- Most Favoured Nation (MFN) Clause: No discrimination among member countries
- National Treatment (NT) Clause: Equal treatment to lawfully imported and domestic products

Trade without discrimination – a country should not discriminate between its trading partners (giving them equally 'most-favoured-nation' or MFN status); and it should not discriminate between its own and foreign products, services or nationals (giving them 'national treatment')

WTO is a forum for countries to iron out their differences on trade issues.

Thus there are a number of ways of looking at the WTO – An organization for liberalizing trade, a forum to negotiate trade agreements, a place to settle trade disputes.

But it's not superman, just in case anyone thought it could solve – or cause– all the world's problems.

2.3 WTO and Developing Countries

Of the 159 members of the WTO, in March 2013, almost two-thirds are developing countries (WTO, 2013). The developing countries are of importance to the WTO not only because they are large in number but also because they are emerging as significant players in the global economy.

2.4 Implementation of ATC

2.4.1 Evolution of the Multi- Fibre Arrangement (MFA)

Protection of the textile and clothing- sector has a long history in the United States and Europe. In the 1950s, Japan, Hong Kong, China, India and Pakistan agreed to 'voluntary' export restraints for cotton textile products to the United States. In 1962, a Long Term Agreement (LTA) regarding International Trade in Cotton Textiles was signed under the auspices of the GATT (replacing the one-year short-term agreement). The LTA was renewed in 1967 and later in 1970. In December 1972, a GATT-sponsored, fact-finding study on 'problems' in the textile and clothing trade was completed. As a consequence of this study and subsequent negotiations, the arrangement regarding international trade in textiles or the Multi-Fibre Arrangement (MFA) came into being in January 1974. The MFA remained in force, after several renewals, until the end of 1994. It was

renewed in 1977, 1981, 1986, and in 1991. The last extension was through 1994. The expiration of the MFA did not, however, mean the end of quotas exports from developing countries. Instead the MFA was followed by the Agreement on Textiles and Clothing (ATC), which was done in 1995. It came into existence so that industrialized countries can adjust to the competition from developing countries.

Major industrialized importers use extensive application of quotas through MFA at the expense of the efficient developing country exporters. It, clashes with the prohibition of quantitative restrictions (QRs) and the MFN principle. Ultimately, the ATC was introduced in the Uruguay Round as a way out to slowly bring the textiles sector into the GATT by 1 January, 2005.

2.4.2 The Agreement on Textiles and Clothing (ATC)

The ATC was a 10 year (during January 1995 and December 2004) transitional agreement with a four-stage integration programme. It replaced the Multi-Fibre Arrangement (MFA), which began in 1974 and provided the basis on which many industrial countries, through bilateral agreements or unilateral actions, established quotas on imports of textiles and clothing from more competitive, developing countries. The MFA expired when the new ATC, which had gradually integrated clothing and textile products and placed them under the world trade rules from January 1, 1995.

MFA abolition does offer great opportunities for exporting countries, particularly in South and Southeast Asia, to expand textile and clothing exports and stimulate demand for fibres. Gains of South Asian countries from phasing out the MFA are expected to be great, because they were severely constrained by the quotas, and they were among the lowest cost producers.

Rao[21] has observed that with seven years having gone by after the removal of quotas, the global textile sector is continuing its paradigm shift in production and consumption centres on account of importing countries deferring the process of liberalization of the "most sensitive" products until the last stage (i.e., till January 2005), recent entry of Vietnam into WTO, and the fact that the largest supplier of textile goods in the world, i.e, China continued to face quantitative restrictions in the two largest markets, namely, European Union (EU) and USA, well after the final integration. The EU had already lifted its restrictions on China since January 2008, and the USA had also lifted its restrictions on China since January 2009. With unrestricted supplies of textiles from China into these two major markets, the pace of adjustments would reinforce intense competition amongst the Asian suppliers.

The impact of complete abolition of MFA can be observed from the data on exports of yarn, fabric and garments made ups etc. The following tables and the corresponding graphs in the figures give a complete picture of the trends of exports before and after MFA (i.e. cut off 1st January 2005).

3. Impact on Exports of Yarn

On quantity terms export decreased marginally from 755-39 million Kgs. to 743.93 million Kgs. during 2001-02 to 2004-05 and

Table 1. Year wise Exports of Yarn

Sl. No.	Year	Quantity in million (Kg)	%age growth	Value in Rs. (Crores)	%age growth
1.	2001-02	437.56	-	5510.98	-
2.	2002-03	511.08	16.8	5845.95	6.1
3.	2003-04	466.12	-8.8	5890.64	0.8
4.	2004-05	448.43	-3.8	5642.21	-15.7
5.	2005-06	552.16	23.1	6565.53	16.4
6.	2006-07	615.59	11.5	7598.25	15.7
7.	2007-08	664.14	7.9	7682.26	1.1
8.	2008-09	555.77	-16.3	6912.22	-10.0
9.	2009-10	589.02	6.0	7636.42	10.5
10.	2010-11	697.62	18.4	12306.69	61.2
11.	2011-12	752.40	7.9	14364.56	16.7

Source: 1. Handbook of Statistics on Textile Industry 30th edition, Confederation of Indian Textile Industry (2008) New Delhi[22].
2. Official Indian Textiles Statistics http://www.txcindia.com/html/comp table pdf 2008-09/officialindiantextile200809sub.htm 2011-12, Office of the Textile commissioner Government of India Mumbai.[23]

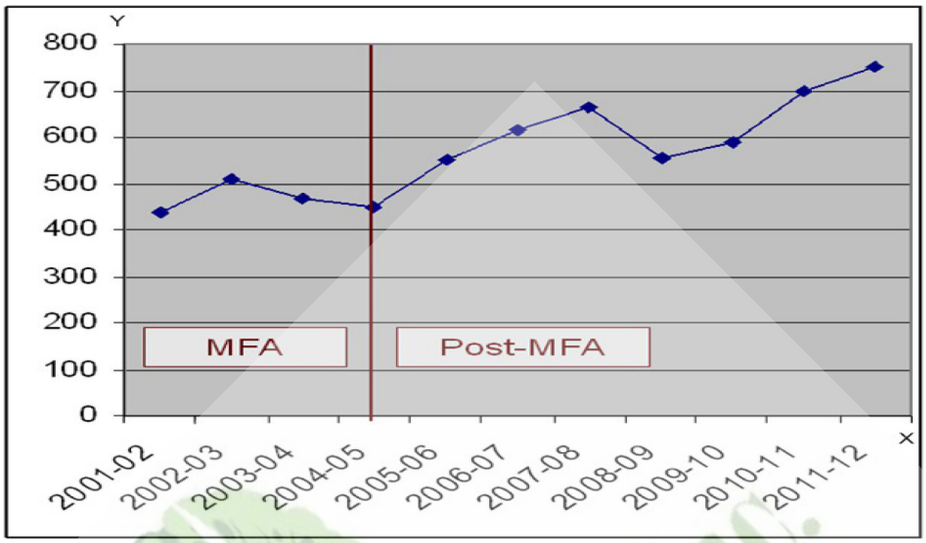

Figure 1. Exports of Yarn in quantity terms.
X-axis-Years
Y-axis-Quantity In Million Kgs

The Chart has been drawn from the data given in Table-1.

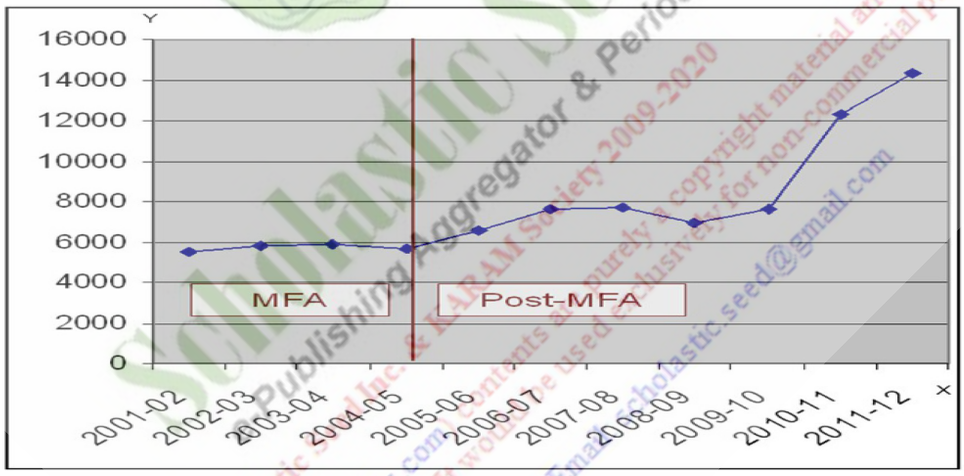

Figure 2. Exports of Yarn in value terms.
X-axis – Years
Y-axis – Value in Rs. Crores
Source: 1. Handbook of Statistics on Textile Industry 30th edition, Confederation of Indian Textile Industry (2008) New Delhi.[22]
2. Official Indian Textiles Statistics http://www.txcindia.com/html/comp table pdf 2008-09/officialindiantextile200809sub.htm2011-12, Office of the Textile commissioner Government of India Mumbai.[23]

then jumped to a high of 1143.79 million Kgs. during 2007-08 and almost maintaining the same figure i.e. 1140.67 million Kgs.

The Value of export of all years increased from Rs. 5510.98 crores to Rs 5642.21 crores during 2000-01 to 2004-05 and further to Rs 14364.56crores in 2011-12. The figure dipped in the year 2008-09 to 6912.22 due to worldwide recession.

4. Impact on Exports of Fabric

In terms of quantity, exports remained constant at around 601.24 to 654.33 million square metres during 2000-01 to 2004-05 and thereafter rose rapidly to 613.70 million square metres during 2005-06 to 967.92 million sq. m. in 2011-12.

Table 2. Year wise Export of Fabric

S.No.	Year	Quantity in million sq. mtr.	%age growth	Value in Rs. Crores	%age growth
1.	2001-02	654.33	-	3197.34	-
2.	2002-03	601.24	8.11	3223.60	0.82
3	2003-04	672.97	11.93	3311.64	2.73
4.	2004-05	654.27	-2.77	3102.68	-6.31
5.	2005-06	613.70	-6.20	3742.34	20.62
6.	2006-07	643.75	4.89	4049.44	8.21
7.	2007-08	658.42	2.28	4166.65	2.89
8.	2008-09	687.60	4.43	4446.23	6.71
9.	2009-10	626.94	-8.82	4449.46	0.07
10.	2010-11	839.15	33.85	5135.88	15.43
11.	2011-12	967.92	15.34	7612.98	48.23

Source: 1. Handbook of Statistics on Textile Industry 30th edition, Confederation of Indian Textile Industry (2008) New Delhi.[22]
2. Official Indian Textiles Statistics http://www.txcindia.com/html/comp table pdf 2008-09/officialindiantextile200809sub.htm2011-12, Office of the Textile commissioner, Government of India Mumbai[23]

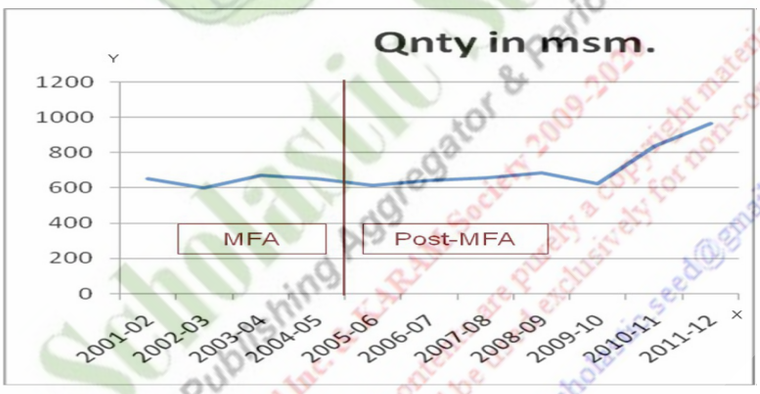

Figure 3. Year wise export of fabric in quantity terms in million square metres (msm).
X-axis – Years
Y-axis – Quantity in million square meters

The Chart has been drawn from the data given in Table-2.

The value of exports of all fabric increased from Rs.3197.34 crores to Rs. 3311.64 from 2000-01 to 2003-04 and then Rs. 4446.23 crores in 2008-09 to 7612.98 in 2011-12.

5. Impact on Exports of Readymade Garments

The value of exports of Readymade Garments increased from Rs. 17926.86 crores to Rs. 22482.59 crores during 2000-01 2004-05 and then further to Rs. 30832.82 crores in 2006-07 and Rs. 44382.38 crores in 2011-12.

The MFA phase out seems to have improved the prospect for India textile and clothing industry, but recent global slowdown have ceased its impact.

The figures in the Table-3 show that, there is a steep rise in the export of readymade garments quantity wise as well as value wise after 2004-05 i.e. after the abolition of MFA.

Rao[21] has tested the hypothesis that removal of quantitative restrictions on exports of textiles and clothing to developed

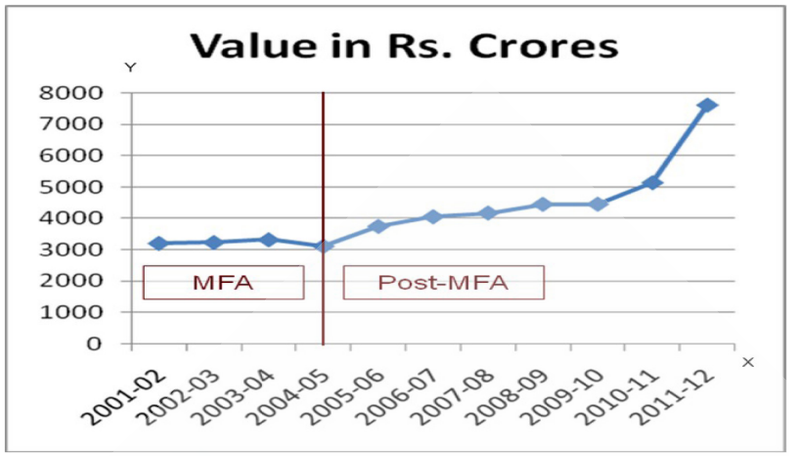

Figure 4. Year wise export of fabric in value terms (in Rs. Crores).
X-axis – Years
Y-axis – Values in Rs. Crores
Source: 1. Handbook of Statistics on Textile Industry 30th edition, Confederation of Indian Textile Industry (2008) New Delhi.[22]
2. Official IndianTextiles Statistics http://www.txcindia.com/html/comp table pdf 2008-09/officialindiantextile200809sub.htm2011-12, Office of the Textile commissioner Government of India Mumbai.[23]

The Chart has been drawn from the data given in Table-2.

Table 3. Yearwise Export of Ready Made Garments

S. No.	Year	Quantity in million.	%age growth	Value in Rs. Crores	%age growth
1.	2001-02	1126.0		17926.86	
2.	2002-03	1351.0	20.0	21226.29	18.4
3.	2003-04	1557.0	15.2	21387.99	0.8
4.	2004-05	1374.0	-11.8	22482.59	5.1
5.	2005-06	1818.0	32.3	28633.67	27.4
6.	2006-07	1834.8	0.1	30832.82	7.6
7.	2007-08	1803.8	-1.7	29808.64	-3.3
8.	2008-09	2321.6	28.7	37599.39	26.1
9.	2009-10	2205.2	-5.0	36839.61	-2.0
10.	2010-11	2130.0	-3.4	36396.08	-1.3
11.	2011-12	2220.0	4.2	44382.38	21.9

Source: 1. Handbook of Statistics on Textile Industry 30th edition, Confederation of Indian Textile Industry (2008) New Delhi.[22]
2. Official Indian Textiles Statistics http://www.txcindia.com/html/comp table pdf 2008-09/officialindiantextile200809sub.htm2011-12, Office of the Textile Commissioner Government of India, Mumbai.[23]

countries from 2005 has had a positive impact on the exports of the sector. This is due to increase in both cotton and non-cotton products. He has found to be right.

Various figures given in the Table 1-Table 3 have also established the above fact.

It is clear from the figures given in table –4 that the India's share in world textile export varied between 3.6-3.8% during period 2000 to 2004, whereas after 2005 the share increased to 5.2% from 3.8%. Similarly India's share of world export in clothing rose to 2.9 to 3.9% during post MFA regime from 2.7 to 3.0% during MFA regime.

6. Country Wise Analysis

India is third largest exporter, behind EU-27 and China, as per WTO data in the international exports of Textiles, In the global

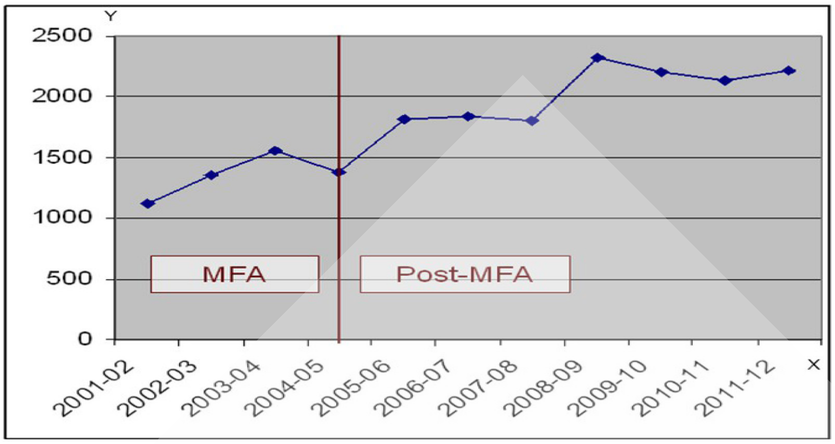

Figure 5. Yearwise export of Readymade Garments in quantity terms (in Millions).
X-axis – Years
Y-axis – Quantity in million
The Chart has been drawn from the data given in Table-3.

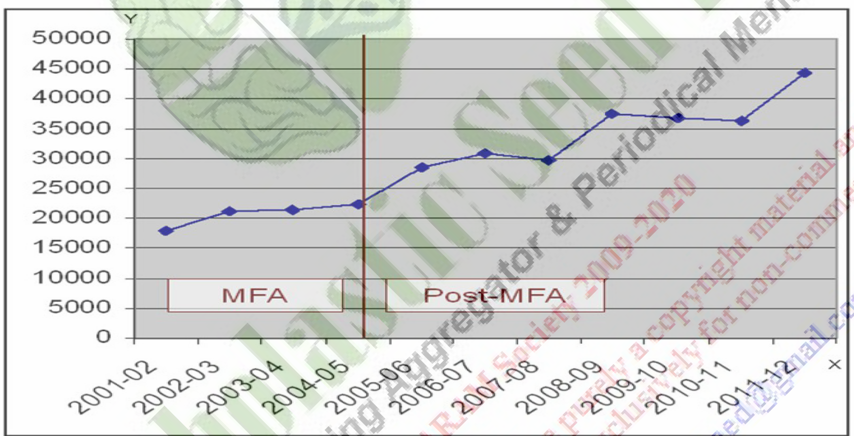

Figure 6. Year wise export of Readymade Garments in value terms (in Rs. Crores).
X-axis – Years
Y-axis – Values in Rs. Crores
Source: 1. Handbook of Statistics on Textile Industry 30th edition, Confederation of Indian Textile Industry (2008) New Delhi.[22]
2. Official Indian Textiles Statistics http://www.txcindia.com/html/comp table pdf 2008-09/officialindiantextile200809sub.htm2011-12, Office of the Textile commissioner Government of India Mumbai.[23]
The Chart has been drawn from the data given in Table-3.

market exports of clothing, India is the fifth largest exporter behind Bangladesh, Hong Kong, EU-27 and China per WTO data.

The latest data published by WTO, the values of top ten exporters of textiles & clothing in the world in calendar year 2012 are given in Table-5.

7. Conclusion

Thus we conclude from above observations that the export of textile intermediates (i.e. yarn and fabric) and textiles and clothing have increased substantially after the abolition of MFA

The observation in the study of Rao[21] that quota free regime of international trade from January 2005 has made a positive impact on the Indian textile and clothing (T&C) exports, as well as on the overall exports of the country has been further substantiated. The export trade in the earlier stage was confined to raw material and intermediate products (yarn and fabric) it has now shifted to more value added products, like, ready-made garments and made-ups. A significant benefit comes from a positive impact on employment in these labour-intensive industries. Post-Quota changes continue to shape global textiles trade.

Table 4. Year wise exports of Textiles & Clothing World and India

Year	Textiles (Billion US $)			Clothing (Billion US $)		
	World Exports	India's Exports	India's % share in worldwworld exports	World Exports	India's Exports	India's % share in world exports
1990	104.4	2.2	2.1	108.1	2.5	2.3
2000	154.9	5.6	3.6	197.4	6.0	3.0
2001	147.4	5.5	3.7	193.7	5.5	2.8
2002	153.9	5.8	3.8	203.0	5.8	2.9
2003	172.3	6.4	3.7	233.1	6.3	2.7
2004	193.9	7.4	3.8	259.9	6.9	2.7
2005	202.0	8.3	4.1	276.4	8.7	3.2
2006	217.3	8.9	4.1	308.1	9.6	3.1
2007	237.4	9.6	4.1	345.9	9.9	2.9
2008	248.4	10.4	4.2	363.6	11.0	3.0
2009	209.8	9.1	4.3	315.5	12.0	3.8
2010	250.7	12.9	5.1	351.5	11.2	3.2
2011	293.5	15.0	5.1	412.5	14.4	3.5
2012	350.3	18.0	5.2	521.3	20.3	3.9

Source: 1. Handbook of Statistics on Textile Industry 30th edition, Confederation of Indian Textile Industry (2008) New Delhi. [22]
2. Official Indian Textiles Statistics http://www.txcindia.com/html/comp table pdf 2008-09/officialindiantextile200809sub.htm2011-12, Office of the Textile Commissioner Government of India Mumbai.[23]
3. International trade statistics 2012, WTO Secretariat, Geneva.[24]

Table 5. Top ten exporters of textiles & clothing in the world

Textiles (2011)				Clothing (2011)			
Rank	Name of the Country	Value	% of world share	Rank	Name of the Country	Value	% of world share
1.	China	94	32.2	1.	China	154	37.3
2.	EU-27	77	26.1	2.	EU-27	116	28.2
3.	India	15	5.1	3.	Hong Kong, China	25	-
4.	United States	14	4.7	4.	Bangladesh	20	4.8
5.	RP Korea	12	4.2	5.	India	14	3.5
6.	Hong Kong, China	11	-	6.	Turkey	14	3.4
7.	Taipei, Chinese	11	3.8	7.	Viet Nam	13	3.2
8.	Turkey	11	3.7	8.	Indonesia	8	2.0
9.	Pakistan	9	3.1	9.	United States	5	1.3
10.	Japan	8	2.7	10.	Mexico	5	1.1
	World total	294			World total	412	

Source: International trade statistics 2012,WTO Secretariat24

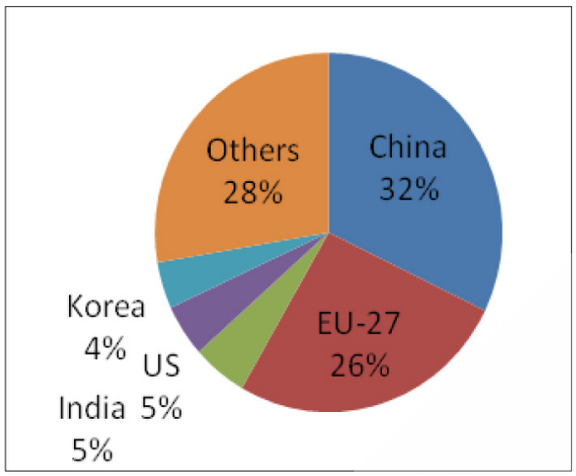

Figure 7. Percentage Share of worlds textile export.
Source: The pie chart drawn from the data given in Table-5

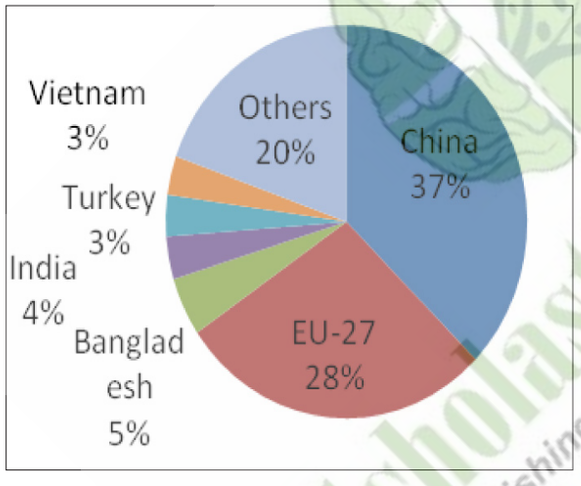

Figure 8. Percentage Share in worlds clothing exports.
Source: The pie chart drawn from the data given in Table-5

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Paperless Society - From Vision to Fulfillment

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Abstract

Every year thousands of trees are ruthlessly felled all over the world just to satisfy man's never ending greed! In the present time environmental degradation has emerged as a major global concern for human survival. The situation is getting alarming day-by-day. Pulp and paper production, consumption and disposal have many negative environmental and social effects. Therefore, Going for Paperless Society is the need of today for conservation of natural environment. 21st Century is the Digital Age. The revolutionary potential of electronic revolution promises to transform economic and environmental gains. The present paper is an attempt to draw kind attention towards relevance of Paperless Society and highlights the potential of Computers, Information Technology & Networking for resolving natural environment issues to some extent. Apart from various initiatives taken up at all levels, "The Green Movement" is still in its infant stage. By making responsible choices and by joining hands together we would certainly be able to fulfill our vision of "Paper less Society".

Keywords: Digital Age, Electronic Revolution, Environmental Degradation, Natural Environment, Paperless Society.

1. Introduction

These days there's one thing that might be more fashionable than your new i-phone: "The Green Movement"- growing trend to "go green", that is, to adopt Earth-friendly behaviors, policies, and technologies in order to avoid disastrous eco-consequences in the future. It is all about how systems operate & cooperate with laws of Nature.

People all over the world are jumping on the eco-friendly bandwagon in an effort to keep our planet healthy. For some this means eating organic fruit, for others it means driving a hybrid car. Among the concepts that fit the green school of thought is the idea of going paperless: An organization no longer printing onto paper, nor otherwise using paper for communications or data retention. There is now more pressure than ever to conserve resources and reduce the amount of paper uses around you.

In today's world, paper has become indispensable. We wake up in the morning just to be greeted by the morning newspaper. Little bits of paper are useful to jot down small notes. Our kids extensively use notebooks to do their homework. So, As you can see…There's paper, paper and paper everywhere!! Is there not a solution to this never ending problem??

2. Overview

When Johannes Gutenberg invented the printing press with replaceable/moveable wooden or metal letters in 1436 (completed by 1440), it transformed society for centuries to come. This method of printing brought a revolution in the production of books, and provides an efficient way to produce large volumes of written information. As a result, knowledge spread quickly, sparking the Renaissance and the worldwide exchange of ideas that exists today.

When computer was invented about 60 years ago, the first electronic computer, the ENIAC, was developed at the school of engineering, University of Pennsylvania in 1946, transformed our society from being mechanical based to electronic based. Since then, Information and Communication Technology (ICTs) are reshaping society by reshaping how information is shared.

At that time the experts claimed that some day few large computers would probably handle all the needs of this planet and experts predicted that paper would eventually disappear from our life, and eventually we will move toward a paperless society the shift from paper to the computer screen will spur a transformation equal in magnitude to the printing press.

Berkowitz[5] invited various thought influencers to discuss both the challenges and rewarding opportunities of going paperless and tried to justify that the paperless age has arrived.

Ali and Nisha[3] tried to find the "Use of E-Journals among Research Scholars at Central Science Library, University of Delhi". The findings clearly reveal that more than 60% users in the CSL are using e-journals weekly for the purpose of research.

Because of widespread use of computers and anticipated improvements in hardware, the potential for going paperless seems to be exciting.

* Author for correspondence

3. What is Paperless Society?

Obviously and as the name implies, it means living and working in an environment where the use of paper is eliminated or paper will hardly be in use whether at home or in office. That means not requiring paper neither to convey nor to record & store info. In other words, it describes an absence of paper, relating to keeping of records and communicating without paper, probably electronically.

To begin to create that environment we all need to reduce our paper consumption & get organized electronically. Moving to electronic organization methods is about changing your thought patterns and realizing that you don't need a hard copy of every piece of information you use. To say shortly, the phrase paperless society simply means that we are moving towards a society where we use the technology that is available and use less paper.

4. Why Go Paperless?

"If we can get the world to GO Paperless! We can reduce the amount of paper that is wasted worldwide.

If we can get the world to GO Paperless! Think of the impact it would have on our skies.

If we can get the world to GO Paperless! Imagine what else we can change in our lives." (www.gopapreless.info)

4.1 Environmental Impact

The Natural Environment has become one of the most important issues of today and will continue to be well into the future. Throughout history humans have both affected, and been affected by, the natural world. Interactions between human society and the environment are constantly changing and challenging. For many decades, paper was a rare and precious commodity. Today, paper is a fundamental part of life but its existence is taken for granted[21]. Even with advances in recycling the primary fiber input into paper making is still unsustainably managed and harvested trees[13].

4.1.1 Paper Facts

- Worldwide over 40% of wood pulp goes towards the production of paper. (www.reduce.org)
- Paper manufacturing is the largest industrial consumer of water per pound of finished product.
  Source: American Forest and Paper Association
- Approx. 324 L. of water is used to produce 1 KG of paper.
  Source: Environment Canada
- Average worldwide annual paper consumption is 48 KG per person[8].
- Paper consumption in India is set to double from the current 7 million tones p.a by 2015.(Indian Paper Industry)
- Industrialized nations, with 20 percent of the world's population, consume 87 percent of the world's printing and writing papers[10].
- Global production in the pulp, paper and publishing sector is expected to increase by 77% from 1995 to 2020[11].
- Only 10% of the paper consumed will be retained to form part of user's records like valuable photos, important books and documents, while the remaining 90% will all go to wastes.

While many uncertainties remain, there is a realization that environmental problems are becoming more and more complex. Pulp and paper production, consumption and disposal, each one of these have many negative environmental and social effects[1].

4.1.2 Deforestation

The pulp and paper industry's impacts on the environment have been notable not only for their magnitude but also for their breadth, ranging from damage to forests, that are essential for clean air and water, wildlife habitat, climate protection, spirituality, recreation and for human survival. Paper manufacturing is the 3rd largest user of fossil fuels worldwide[6].

4.1.3 Air and Water Pollution

The pulp and paper industry is among the world's largest generators of air and water pollutants, waste products, and the gases that cause climate change. It is also one of the largest users of raw materials, including fresh water, energy, and forest fibers[1].

4.1.4 Emissions of Toxics Release Inventory (TRI)

The pulp and paper industry ranks fourth among industrial sectors in emissions of Toxics Release Inventory (TRI) chemicals to water, and third in such releases to air[21].

These impacts can occur at all phases of the paper lifecycle, from fiber acquisition, through manufacturing, storage to disposal as it diminishes natural resources and increases Greenhouse Gasses (GHGs) in Earth's atmosphere, therefore it is an ideal and crucial time to introduce innovative methods by which superfluous environmental impacts can be reduced. Obvious options may jump out as:

- Plant more green plants and forests to offset any greenhouse effect resulting from humankind's addiction to fossil fuels. Unfortunately soil erosion and urbanizations prevent reclaiming land to use for planting forests.
- Post consumption recycling is a good option that reduces deforestation to some extent but on the other side use another natural resource: water and the energy consuming recycling

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process produces GHGs. Therefore, recycling logic is advantageous but less valuable.

So going for a Paperless world is the need of the hour for conservation of environment

4.2 Goal of Sustainability

The triple bottom line (abbreviated as "TBL" or "3BL") made up of "people, planet and profit" or "the three pillars"[6] captures an expanded spectrum of values and criteria for measuring "social, economic and environmental" success and goal of sustainability.

"People" (human capital) pertains to fair and beneficial trade practices towards labor and the community.

"Planet" (natural capital) refers to sustainable environmental practices. A TBL company endeavors to benefit the natural order as much as possible or at least do no harm and curtail environmental impact. In TBL thinking, an enterprise which produces and markets a product which are harmful or will create a waste problem should not be given a free ride by society.

"Profit" –is the economic value created by the organization after deducting the cost of all inputs, including the cost of the capital tied up. It therefore differs from traditional goal of profit of an organization[23].

Therefore, an original TBL approach cannot be interpreted as simply corporate accounting profit plus social and environmental impacts unless the "profits" of other entities are included as social benefits. It is taken care by Environmental Accounting which incorporates both conventional and ecological accounting.

Every Country faces the twin problem of protecting the environment as well as promoting economic development. Responsibility towards environment has become one of the most crucial areas of social responsibility for every business concern. Not to mention, Paperlessness- a responsibility towards society. We don't ask to stop but ask to do business more responsibly and ethically. A product has to be responsible by itself otherwise it will not be accepted by society. A business exists from sanction of society. So, it is a question of survival. CSR is your edge.

4.3 Global Reporting Initiatives

The Global Reporting Initiative (GRI) launched in 1997 produces one of the world's most prevalent standards for sustainability reporting[23]. Sustainability reporting is a form of value reporting where an organization publicly communicates their economic, environmental and social performance[28]. GRI seeks to make sustainability reporting by all organizations as routine as, and comparable to, financial reporting. It has been suggested that the responsible management of the growth process can prevent the organization from becoming "too big to fail". Moreover, responsibly managing growth enhances the organizational propensity to experience healthy longevity.

4.4 Challenging Business Environment

Organizations - big or small, are facing many challenges today, including more stringent regulation, earning and retaining clients, mergers and acquisitions, an explosion of content such as e-mail, increased competition, hiring talented professionals and so on. Not only throughout the nation - but throughout the world - the ability to review information simultaneously is gaining importance day by day. We are on the verge of information becoming available anywhere and anytime. The 21st Century is the digital age; the era of online collaborations has arrived. Only now by exchanging and sharing documents and data digitally, Web-based Paperless solutions can help firms address all of these challenges.

4.5 To Make Business More Efficient

As business and industries becomes more complex, virtually all professions – require methods to improve efficiencies. They need access files and source documents 24/7, anywhere-anytime. Technology drives every aspect of what we do in our profession today. The only way to make the process more efficient is to convert the old "paper" process to digital and to store files and documents in a way that allows for easy access.

Now therefore, it's time to decide as a society to make changes in the way we live and changes in the way business is done.

5. How to Go Paperless?

5.1 Document Management

Document management is an organized system of electronic production, storage and retrieval of documents, audio and video files, emails, faxes, reports, photos, fonts, graphics, images etc. and providing secure access. DM software was created in the effort to introduce "paperless" offices.

5.2 Content Management

These web publishing system is a combination of large database, File System, and other related software modules which can index

Source: www.gogreeninitiatives.blogspot.in[19]

text, audio clips, video clips, or images are used to store and later retrieve huge amounts of data thus help in creating information portals in a database. Along with the database handling facilities, the software modules also allows anyone to contribute information to a website via a Graphical User Interface (GUI).

5.3 Records Management

RM is the practice of maintaining the records (a tangible object or digital information: for example, birth certificates, medical x-rays, office documents, databases, application data, and e-mail) of an organization to its entire 'life-cycle' - from the time they were created up to their eventual disposal, so that the right records are provided to the right person at the right time.

5.4 Computer Online Document (COLD) Storage

There are lots of different ways to store any types of document online

- Student emailing themselves i.e. email inboxes
- Photo websites
- Online storage libraries
- Companies can scan their company's documents.

Files are saved by online storage companies in much the same way that websites are saved on computer servers. Because servers (and websites) can be accessed via the internet from anywhere in the world, that means that your files can be accessed online from anywhere too. These tend to be fully secure and easy to access online from any computer. This is perfect for ensuring you never lose any important data due to computer issues. Many companies like Document-Scanning.net are browser-based you don't need to download any complicated software to get started.

5.5 Microfilm Storage

Microfilm Storage is a process that reduces an image to 1/25th its original size that can be viewed later through a special machine. This compression results up to 99% storage saving and stable archival format which when kept in a temperature-controlled environment, it is rated to last 500 years. Thereby in terms of cost, stability and technology independence, microfilm storage offers a promising solution for off-line storage. Thousands of government documents are archived on microfiche (flat sheets) for this very reason[15].

It was originally developed in the 1800's, but did not get put to significant use until the late 1920's. When it was first developed, banker George McCarthy held the patent for the machine capable of creating microfilm. In 1928, Eastman Kodak purchased the rights of the microfilm machine[29].

5.6 Audio Storage

Audio file formats are container formats or audio data formats with a defined storage layer for storing audio data on a computer system. The storage of digital audio involves sampling the audio voltage, which would correspond to a certain level of signal in a channel with a particular resolution in regular intervals, on playback. The data can then be stored uncompressed or compressed. Compression reduces the file size.

5.7 Enterprise Resource Management

Enterprise Resource Planning or ERP is actually a process or approach which attempts to consolidate all of a company's departments and functions into a single computer system that services each department's specific needs. It is, in a sense, a convergence of people, hardware and software into an efficient production, service and delivery system that creates profit for the company.

Figure 1. Lifespan of Microfilm & other Modern Media (Graph).
Source: www.Microfitche-Microfilm-Scanning.co.uk

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6. Heading Towards Paperless - Dimensions/Applications

Welcome to the wired world, where technology and human talent together has created a new way for growing worldwide. Whether you call it going paperless, adopting a digital office, following a digital practice model or implementing document management, the paperless age has arrived.

In today's ever-changing world, as we all know the only thing that doesn't change is the "change" itself. In a world which is increasingly driven by the three C's: Customer, Competition and Change, Organizatons - big or small, are in search of new solutions for their business problems[7]. For being able to reap the achievable benefits fully, the use of technology is conceived as a major contributing factor.

The wired world is not only about technology, it is also about information, decision making and communication. If we look closely at the changes that have taken place during past two decades, we find that Computers, Information Technology and Networking have combined to make society paperless. In the era of Computers, we are heavily depending on them. There is so much we're now able to do electronically that once required paper. It is an electronic revolution which transformed the way in which the organizations operate. It is associated with buying and selling of information, products and services over computer communication networks. It not only automates manual processes and paper transactions, but also helps organizations in moving to a fully electronic environment and change the way they operate. In fact it enables paperless exchange of information using Electronic Data Interchange (EDI) Electronic Mail, Electronic Bulletin Boards (EBB), Electronic Funds Transfer (EFT) and other network based technologies.

Paperlessness appreciates and addresses virtually every aspect of society from the single household to the largest corporation. The impact of which is far reaching. Any way you look at it, it is everywhere. For example, it facilitates Online buying & selling of:

Information	Goods	Services
Digital Library	Online Shopping	Internet Banking
E-Books	Electronic Funds Transfer	E- Marketing
E-Learning	Online Trading	Online Reservations
Online Exams	Sharing Photographs	E-Governance
Use of E-Mail	Investments	Insurance
EDI	Entertainment/Games	E-voting
	Music	Online FIR
	Payment	Online License

Further, various studies suggests by reengineering the production process, firms also could reduce environmental impacts. Business Process Reengineering (BPR) is basically the fundamental rethinking and radical re-design, made to an organization's existing resources[7]. BPR aims at total reinvention and not in small improvements. (Subramanian, Larry & Cheragi, 1999) While Internet based web technologies had been used for supporting the existing business functions, now their use for resolving environmental problems has also been increasing. Information Technology (IT) has historically played an important role in the reengineering concept. (Munns & Cross)

7. Rewards of Going Paperless

Today, every one of us has been affected by the Digital Revolution in one way or the other, the impact of which is far reaching. The advantages of a paperless system are worth considering.

7.1 Environmental Gains

The revolutionary potential of the Digital Revolution promises to transform economic and environmental gains and stands to revolutionize the relation between economic growth and the environment. This has improved the capability to understand the science of environmental degradation and to communicate that knowledge to public and private decision makers[2].

- Reduce Degradation: Study indicate that the technological innovation could prove an important innovation for reducing environmental degradation. Not using paper would mean a lot to the environmentalists, as it would save a lot of trees.
- Slow down consumption of natural resources
- Improves oxygen supply
- Controls Pollution: It helps decrease resource waste and associated pollution by improving the efficiency of economic activity and provides improved sensors and instantaneous telecommunications links to control pollution spillovers, better manage shared resources and reduce waste.
- Precision farming methods: The internet has also helped reduce environmental impacts in agriculture, water pollution etc. The internet has served as an important innovation in facilitating what is called 'precision farming methods' that dramatically lower the amount of inputs needed for any given crop.

7.2 Sustainability

- Develop Sustainable Relationship: Due to network, the business world has witnessed changes with globalization, increased competition and technological advances. GO Paperless made it easy for organizations to lead the way to

the development of a sustainable relationship with the triple bottom line of business consists of People, Planet and Profits. Technology has given us new green options and opportunities to evolve to a more sustainable relationship with our (Customers, Supporters, and Buyers) People.

- Helps in achieving Social, Environmental & Economic Success.
- Balance between ecology and economy: Green Management strengthen the management system for sustainable development while achieving a good balance between ecology and economy.

7.3 Improved Efficiency

- Globalization of Business: The Digital Revolution facilitates globalization of business & provides an opportunity to increase economies of scale. By linking the world together, the internet has the potential to vastly improve the efficiency of business.
- Supply Chain Management: The digital revolution reshaped product design, manufacturing and distribution systems and the fundamental relationship of producer to producer thus helps in product life cycle through improved supply chain management. Wasteful over production and spoilage can be largely eliminated that could reduce or eliminate the need for warehouses and retail stores, and for the materials, energy, and space.
- Just in Time: Just in Time (JIT) production is a manufacturing philosophy which eliminates waste associated with time, labor, and storage space. With improved means company produces only what is needed, when it is needed and in the quantity that is needed... It means that company can manage with their own resources and allocate them very easily.
- Total Quality Management: Total Quality Management (TQM) is an approach that seeks to improve quality and performance which will meet or exceed customer expectations. This can be achieved by integrating all quality-related functions and processes throughout the company.

7.4 Communication Medium

Internet and related information technologies have given us the capability to create more information than the whole human race managed to produce during its entire history. The growing commercialization of the World Wide Web has led to the increased availability of information via the internet. Computers provide unlimited capacity, fast, easy, and cost-effective means to access, use, create, and disseminate information using e-mail, list servers, websites and other web-based channels. Going paperless facilitates:

- Direct Access: The internet allows direct communication, bypassing many information intermediaries and also substantially reduces the cost of communicating through space and time. Direct Access considering "less paper" solutions is critical today as firms spend a significant amount of time looking for misplaced documents and tracking the status of returns. Today's document management solutions integrate these processes so your staff can go to one place to know the status of any project and to have direct access to the documents supporting that project.
- Easy and Speedy conversation: Another great thing about storing information in computers, rather than in paper form, is that it can easily be communicated to other businesses or clients without using paper. This can be done by emailing or faxing forms through to other people that need to access these files, straight from your computer

7.5 Organized Work

Electronic Storage: Ppaperless office provides you with a much easier way to organize your work. Everything that would normally be in the form of paperwork can be scanned or produced straight onto a computer system and stored in files on the computer's hard drive, for later use when necessary. Many different types of storage can be used for these files; This information is then very easily accessible by finding the information/files on the computer system or inserting the corresponding disc or flash drive into the computer and locating the information that way. If any of the information is needed in paper form, it can easily be printed out from the computer.

7.6 Adds Office Space

- Sometimes simplicity remains most effective, and the benefits from going paperless are no exception, as adopting paperless policy definitively adds office space otherwise occupied by paper and paper-related endeavors. For instance, although there may be storage rooms devoted to keeping paper records on hand, these could be completely removed if they were scanned and archived digitally instead. This idea alone can be fairly easy to pursue in order to provide an immediate bonus.

7.7 Cost Effectiveness

- Being paperless is often cheaper. Take the simple example of writing and sending business letters. Think of the costs of producing paper, writing and printing the letters, postage and transport costs and then disposing of the paper at the end of the process. It would be much more efficient to email correspondence than incur such unnecessary costs.
- In any office environment, there are common supply needs, from paper clips to shipping boxes and everything in between.

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Two of the largest expenses for any cubicle-heavy company are paper and ink. The paper may be common copy paper, letterhead, or photo paper, depending on the business; the ink can be bulky toner cartridges for large laser units, or just ink for inkjets, Regardless of the business size or the form of these expenses, their absence can result a significant savings with a switch to paperless.

7.8 Saves Time

- Also, paperless procedures can incorporate savings in time as well. Regular services such as bank statements, bills, catalogues, and others can be switched to online-only. This eliminates the need to receive and open mailings. This is a two-way road as well, because when a company switches its brochures and marketing into less snail mail-heavy venues, it can be a time-saver to no longer need to assemble these mailings, in addition to the savings in postage.

7.9 Increases Efficiency

- Efficiency is the key to an organization's productivity. Simply put, time is money and business professionals need to explore innovative ways of streamlining their processes to improve overall efficiencies within their organizations. By implementing an electronic document management system organizations can begin to tackle their operational processes and achieve increased productivity, better customer service and reduced operating expenses by eliminating the need for physical storage of documents onsite or offsite.

7.10 Create Control

- The technology advances made in the last few years are enabling new, more efficient models for collaboration between CPAs and their clients. Paperless/workflow solutions create significantly more controls for companies at a fraction of what it used to cost. CPAs who are recommending paperless solutions will grow their practice and increase their profits.

8. Precautions While Going Paperless

8.1 Smart Back-ups

- Use Hard Drives: If you do start to work towards powerlessness, much of the records you once kept in paper form (bills, bank statements, receipts, etc.) will likely wind up on your computer, especially if scanning comes into the mix. It's especially important, then, to back up your computer's hard drive regularly, or to save your electronic records to a specific USB key, CD, or external hard drive.
- Store files on Internet: There is an easy way to back up data that is practically fool proof; however, it involves storing your files on the internet. There are lots of benefits to this. By choosing to store files this way to can access them from any computer with internet access and there are also hugely decreased chances of your files becoming damaged or destroyed.

8.2 Electronic Data Management

- Today, most of us maintain an enormous amount of electronic data in various forms within multiple software applications. It is vital now we begin to think of how we want to organize our electronic data in addition to organizing our paper documentation.

8.3 Computer Maintenance: Hardware and Software Issues

- Because information is stored in hard drives or servers, there is always a good chance the information can be lost. One power surge or power outage can wipe out a company's financial records and hard work. Fixing such a problem causes the company to spend money on IT services. Hardware must also be maintained to have optimal performance.

8.4 Online Security

- No matter what virus protection software one uses, malware or other malicious viruses can attack a computer. Some viruses can steal personal information while some delete all your files. The problem with viruses is they can embed in temporary files for months, sometimes years, before they are released. A virus can hamper your production. Learning Curves

8.5 Learning Curves

With new technology also comes a learning curve. Data entry and learning the nuances of a particular program take time. With this issue also come the co ncerns of correct data entry. Business is dependent on accurate information and one minor error could cost the company.

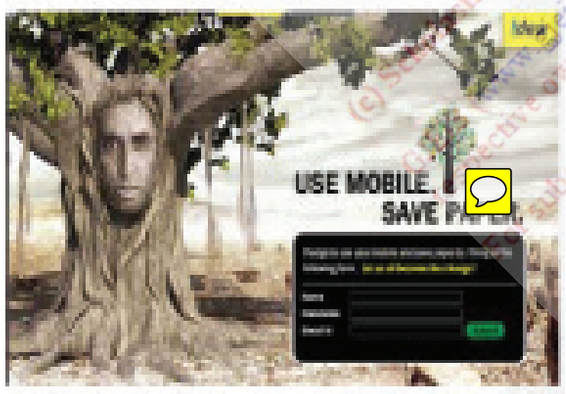
9. Initiatives Taken in India

Recent spate of legislations and policy formulations on environmental issues in India reveal sincere efforts of the Government and society at large to combat this stupendous problem:

- The Human Resource Development Ministry has recently (in 2014) launched the Study Webs of Active-learning for Young

Aspiring Minds (SWAYAM), a Web portal where Massive Open Online Courses (MOOCs) are available on all kinds of subjects.

- Our Prime Minister Mr. Narendra Modi is putting efforts to make all 145 campuses of Centrally funded Institutes Wi-Fi ready.
- Transport Department, Delhi Government has made all zones interconnected online on 4th Feb, 2011 to apply for driving license.
- Filing of Income Tax returns is a legal obligation under the provisions of the I.T Act, 1961. Income Tax Department has introduced a convenient way to file these returns online using the Internet.
- The Ministry of Corporate Affairs, Govt. of India initiated electronic registry, filing e-forms, documents and applications from 16 th September, 2006.
- E-Sign Legislation - The Former U.S President Mr. Bill Clinton signed the E-Sign Act electronically using the E-Lock Digital Signatures Solution on 30th June 2000, after that electronic signatures and on-line contracts gained importance.
- Various garbage disposal initiatives and a paper recycling project have been taken from time to time.
- Teach India Initiative-Societies play a significant role in environmental protection by creating awareness and educating people about the need to conserve and manage natural resources.
- From 1st Feb. 2011, all First Information Reports (FIRs) registered in the Capital will be uploaded on the Delhi Police's website, except for those on sensitive issues like terrorist activities, those relating to national security, rape, molestation and kidnapping for ransom.
- An E-learning initiative taken by Ministry of Corporate Affairs, Govt. of India.
- Idea Mobile appeals nation –



Use Mobile Save Paper

10. Can We Go 100% Paperless?

Ideally being paperless is the best way to be, but the problem is whether it's really practical for ALL to go paperless.For most of us, paper is unlike anything else kitchen gadgets, clothes, and so on in that more of it arrives every day whether we want it to or not. So it's somewhat unrealistic to think that you'll be able to ditch paper altogether. Furthermore, there's probably at least some paper you don't want to get rid of entirely, such as birth certificates, truly special photos, passports etc. The older generation still views the idea of going paperless through computers and wireless devices as abnormal.

This is quite possible in the era of computer technology. Today, it is the younger generation who has grown up with computers (Ranjan). We also use so many electronic gadgets. The mobiles are main in this category. Few current trends regarding the increasing amounts of people using the Internet support the idea of a paperless society such as almost 8 new Internet users added worldwide every second. (www.royalpingdom.com – Techblog, 2012)

But Paperless life doesn't mean that there is no paper. On the contrary, we can live a Paperless Life when we acknowledge the impact that our paper choices have on the environment and begin to make responsible choices.

10.1 Small Actions - Big Difference

It's not impossible but only challenging to do everything without paper. Living the Paperless life is easier than what we think. It doesn't take a lot of effort, and there are viable alternatives out there. It's time to decide as a society to make changes in the way we live and changes in the way business is done. Each sector of the society such as paper manufacturers, suppliers, and purchasers/users, as well as governments can influence the paper production process through what they demand, as well as through the products that they specify or reject[1]. We as individuals are responsible for giving companies a reason to GO Paperless! and interacting with organizations in a greener way

Even if you're not yet ready to aim for cutting paper out of your life altogether, there are easy ways to cut back on it. There are three basic ways for businesses to take on the sustainability concept of the 3 R's (reduce, reuse, recycle) regarding paper. Now, it's your turn! In our personal consulting, we've found one of the easiest ways to transform your home to an improved sustainable lifestyle is to go paperless at home.

Pledge to Change Your Paper Habits

1. Reduce Paper Consumption
2. Use Reusable items
3. Promote Responsible paper Recycling

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4. Buy Recycled notebooks, facial tissues & toilet paper
5. Scan and store electronically.
6. Commit to all online banking: statements, bill, and payments
7. Read your newspapers, magazines online and subscribe to e-books
8. Printing on both sides of paper save 1.5 million sheets of paper per year, and saves ink, not to mention ink is the most expensive liquid in existence. (www.technotip.org)
9. Encourage all to adopt 0.60 printer margins with a single spaced format.
10. Use alternative paper products i.e. paper made from cotton (www.greenearthofficesuppliers.com)
11. Share your photos online
12. Replace paper napkins with cloth napkins
13. Carry reusable bags for shopping and eliminate paper bags
14. Encourage Paperless Post, for birthday cards and notifications, try sending an e-card or using an online party planning tool
15. Put the "PRINT LESS" awareness Pop-up box on all of your PDF documents today

There are real benefits in taking advantage of the paper-reducing opportunities that technology offers. Put a few of the tips above to work in your own life and start enjoying "less-paper-ness."

11. Final Thought

The Paperless society does not look so dreary anymore. The next five to ten years will probably change society Hill says. "It's not going to happen overnight, it's not going to happen tomorrow, but it's going to happen very quickly. We're on the verge of something…."

It is believed that if all of us take this topic of environmental issue seriously, and make little changes with our lifestyle, we together will bring changes in the world, changes that we want to see. So, join the Movement to raise world awareness on this issue and work towards making gradual improvements

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Day Care—As a Method of Disability Care towards the Inclusion

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The second decade of this century has often hailed as the decade of aspirations, ambitions and development, yet relinquished the phenomenon of inclusion at the back benches of the developmental discourses. Disabled persons constitute fifteen percent of world population. The stigmatizing terminology 'mental retardation' was in use world over till late 20th century. This term has been gradually replaced by 'intellectual disability' in most of English speaking countries very recently.

Marginalised sections, specially the disabled, have been left with primordial care and limited to institutions which haven't been able to keep pace with time. The ever increasing demand for trained professionals and services has stressed the care mechanism which in turn has impaired the vision of a libertarian society. The 1999 National Trust of India act aimed at empowering the persons with intellectual disability, autism, cerebral palsy and multiple disabilities and providing crisis based services to their families. The Right of Children to Free and Compulsory Education Act, 2009 and Sarva Shiksha Abhiyan have paved way for basic education of all the disabled persons through mainstreaming, integration and inclusive set up. The penultimate aim of education being employability, vocational training became crucial, especially for intellectually disabled persons.

The adolescent and adult intellectually challenged persons spend their life waiting for interventions which would render more dignity and meaning to their existence. The 'Day Care' as a method of rehabilitation and care has evolved as an effective instrument for such persons. Its successful and impactful implementation in various western as well as in some Indian setup demands robust consideration for its universal implementation and infusion.

Day care as a rehabilitation method has evolved with meticulous contemplation of the intricacies and ineffectiveness of the previous paradigm of disability care. It's a concept where, along with education, various vocational, sports and recreational activities are provided for the best realisation of one's potential. Implementation of Day care in the community set up separates it from previous intervention distinctly.

Day care is a unique and innovative platform which serves multiple purposes, and has much implication in domestic, personal and social dimensions. It provides space for the social services, arts, channelizing various potentials and experimentation as well. Day care has defined the scope of care much beyond simply looking after or surveillance. It entails the very essence of rehabilitation. "Creativity leading to learning" is the prime idea behind the activities programmed for the rehabilitation.

Often, adolescent intellectually challenged persons are literally dumped into some care homes without any follow ups. Their faith is what they rely up to. Under the social condition where their restricted educational capacities halt their progress and performance, they are often seen as veritable curse by their families and society. Further, their non cognizance has often leaded to various sexual and physical abuses, especially in cases of girls. Organ trade and even slavery becomes the fate of such persons.

The Rehabilitation Council of India has indicated of the discrepancies and inadequacy of the data and services respectively. It further asserted the need of increasing services by many folds. Apparently 38000 trained persons are deployed for the purpose whereas the need is of at least 300000. Under such circumstance, imagination of inclusive society remains a far cry. The day care as an embodiment is not just another institutional solution to the problem but a mechanism or an idea which is potent of bringing shifts from the medical to social model. It can be instrumental in removing the difference between the construct of THEM and WE.

The National Trust introduced the aspiration or Day Care centre Scheme with the aim to work with children of 0 to 6 years with developmental disabilities, to make them ready for mainstream and special schools. Assessment & evaluation of children with disabilities, motivation & counselling of parents and families etc. are done under this scheme. They suggest operating the system with 20 children in a group, 10 from below poverty line and 10 from lower income group. Though a handful of schemes exist under various government organizations, such day care homes are very less

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It becomes pertinent to consider Akshay Pratishthan (an NGO working for inclusion' and 'inclusive education'), which has started a Day-Care centre for intellectually challenged persons. The successful implementation of the system has made it an epitome of this model. It was started under community based rehabilitation program four years ago to benefit those who were hitherto left over to either ostracised treatment or inefficient care. Through proactive work and commitment of the social workers and recruited staff at the community and the centre respectively, the program has brought about some remarkable rehabilitation in the lives of intellectually challenged persons. Along with basic education, some vocational skills and group activities were taught or done with the persons, not leaving aside the recreational ad sports activities as well. Nearly two dozen have benefited from this. Mr Praveen, a mentally challenged person enrolled into the day care unit, is now successfully placed in a catering and hospitality service. Ms Pushpa, after going through rehabilitation process, is now working at the NGO itself in the beading and stitching section of the craft and art department. Such implementation has provided an alternative to the 24*7 institutionalisation where often indolence, lethargy and inadequate programs have rendered the rehabilitation and 'inclusion' ineffective.

The community level implementation of this model would make the vision of 'inclusion' a reality. The day care system in its ideal form presents a model where each community, society or the apartment cluster shall have at least one day care unit whereby a space like a room, community and club can be designated for its set up. It shall be operational during specific day hours. The disabled persons can come to the unit and be the part of the rehabilitation. The force behind the conducting and functioning of the unit will be the parents support group. Parents of such persons shall have similar concerns, issues and problems which in turn will help them to unite and form the parents support group. They shall hire professionals with the support of the Community welfare association or the local authority for the other settings. This shall further enlist the community people by effective mobilizing, campaign and even counselling. The community, out of altruism and sympathy, shall come forward to support this set up. This shall also mean that the community assumes utter legitimacy. Community in due course shall fund various requirements like logistics, professionals and activities causing increased intra group cohesion. This would mark the very prelude towards the inclusion. The nexus would be a form for developmental and inclusive discourses.

Day care will also provide employment opportunities to people who shall receive proper training and qualification prior to the joining. One possible way is with short courses from the Modular Employable Scheme (MES) of the Ministry of Labour, Government of India within the day care premises. Many such avenues may open up if several day care centres begin and utilise the potentials of the intellectually challenged to the fullest.

Too much stress has been laid on the institutionalism and medical model which has vitiated the inclusive vision. Under current circumstances, the day care shall prove to be the best alternative. It would also remove the ever mounting stress from the currently working NGOs. Its effective implementation shall definitely provide a ray of hope to the persons who need to live with the sense of worth and dignity.

Global Journal of Enterprise Information System DOI:

Non Performing Assets in SBI (State Bank of India)

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Abstract

The three letters Strike terror in banking sector and business circle today. NPA is short form of 'Non Performing Asset'. The problem of NPA has troubled the entire Indian Banking Sector. The major reason for the increasing graph of NPA is focusing on quantitative aspect of achieving targets and less attention towards qualitative aspect of lending of money.

Changes should be required to tackle NPA problem which results in effective results. The significance of the paper is expected to be an immense use to the society and to the various banks dealing with NPA problem. This study provides the information related to this problem. The basis of this paper was the survey done from the SBI Meerut Branch of the years 2010, 2011 & 2012.

Key words: Overdraft/Cash Credit (OD/CC), PSBs, MIS

1. Introduction

NPA is short form of 'Non Performing Asset'. We know the built up of NPA has been the major factor in destroying the profitability of the Public sector Banks in India, the Narasimham Committee (II) underscored the need to reduce the average level of NPAs of all banks and recommended prudential norms on income recognition, asset classification & provisioning. The dreaded NPA rule says simply this: when interest or other due to a bank remains unpaid for more than 90 days, the entire bank loan automatically turns a non performing asset[1]. The recovery of loan has always been problem for banks and financial institution[1]. To come out of these first we need to think is it possible to avoid NPA, no cannot be then left is to look after the factor responsible for it and managing those factors[3]. With a view to moving towards international best practices and to ensure greater transparency, it has been decided to adopt the '90 days' overdue' norm for identification of NPAs, from the year ending March 31, 2004[3]. Accordingly, with effect from March 31, 2004, a non-performing asset (NPA) shall be a loan or an advance where[1].

i. Interest and/or instalment of principal remain overdue for a period of more than 90 days in respect of a term loan.
ii. The account remains 'out of order' for a period of more than 90 days, in respect of an Overdraft/Cash Credit (OD/CC).
iii. The bill remains overdue for a period of more than 90 days in the case of bills purchased and discounted.
iv. Interest and/or installment of principal remains overdue for two harvest seasons. But for a period not exceeding two half years in the case of an advance granted for agricultural purposes.

2. Classification of Bank Assets

1. NPA: An asset is classified as non-performing asset (NPA's) if dues in the form of principal and interest are not paid by the borrower for a period of 90 days[4].
2. Standard Assets: Such an asset is not a non-performing asset. In other words, it carries not more than normal risk attached to the business[4].
3. Sub-standard Assets: It is classified as non-performing asset for a period not exceeding 18 months[4].
4. Doubtful Assets: Asset that has remained NPA for a period exceeding 18 months is a doubtful asset[4].
5. Loss Assets: Here loss is identified by the banks concerned or by internal auditors or by external auditors or by Reserve Bank India (RBI) inspection[4].
6. Statutory Liquidity Ratio (SLR): It is the one which every banking company shall maintain in India in the form of cash, gold or unencumbered approved securities, an amount which shall not, at the close of business on any day be less than such percentage of the total of its demand and time liabilities in India as on the last friday of the second preceding fortnight, as the Reserve Bank of India (RBI) may specify from time to time.
7. Cash Reserve Ratio (CRR): It is the reserve which the banks have to maintain with itself in the form of cash reserves or by

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way of current account with the Reserve Bank of India (RBI), computed as a certain percentage of its demand and time liabilities[2]. The objective is to ensure the safety and liquidity of the deposits with the banks.

3. Literature Review

- Prashanth K Reddy, D 904, emphasis on the importance of sound understanding of the macro economic variables and systematic issues pertaining to banks and the economy to solve the NPA problem along with the critically strong legal framework and legislative framework.
- Dr. A. Shyamala Assistant Professor of Economics, M.S.S. Walk Board College, Affiliated to Madurai Kamaraj University, Madurai on the topic NPAS in Indian banking sector: impact on profitability which gives us idea about the impact of NPA in profitability of public sector banks.
- Poongavanam. S H.O.D., Department of Management studies, Ranippettai Engineering College, Thenkaddapanthangal, Walaja Taluk, Vellore District. -632513 Tamil Nadu. Asian Journal of Institution assub-standard, doubtful or loss asset, in accordance 'Nonperforming assets: Issues, Causes and remedial solution' they provide remedies about the performance of NPAs and reasons of having troubles because of NPAs (Management Research, Volume 2, Issue 1, 2011, Page 123).

So with the help of these past researches we have a clear path and guidance about the NPAs and there remedies and causes and a way to complete the research to study NPA of SBI, Meerut and to be able to achieve all the objectives regarding the research and gives suggestions and findings.

4. Objectives

- To analyze the quantum of NPA in banks
- To study the impact of NPA on profitability of both banks
- To study the impact of NPA on proficiency of both banks
- To evaluate and made comparison of NPAs (Gross and Net) in between Bank of Baroda and Bank of India.
- To study the past trends of NPA
- To learn Preventive Measures

5. Significance

- Concept of Non Performing Asset
- Guidelines
- Impact of NPAs
- Reasons for NPAs
- Preventive Measures

6. Research Methodology

6.1 Type of Research

The research methodology adopted for carrying out the study[6]:

1. Descriptive Research Methodology.
2. First Phase: Theoretical Study is attempted.
3. Second Phase: Historical Study is attempted.
4. Third Phase: Comparative Study of NPA is undertaken.

6.2 Type of Data

The research data adopted for carrying out the study was secondary data.

6.3 Source of Data Collection

Websites, research articles, direct interaction with banking officials.

7. Limitations

Procuring the financial data of all the SBI was critical because the Indian banking sector is wide, so the better evaluations of the performance of the banks were not possible.

8. Questionnaire with Data Analysis

1) Total NPA of different years? (Data[5])

9. Findings

This shows that 2010 is having the highest NPA whereas 2012 is having the least.

2) Position of SBF, SSI's, Personal loans, Agricultural sectors NPA in SBI ? (Data[8])

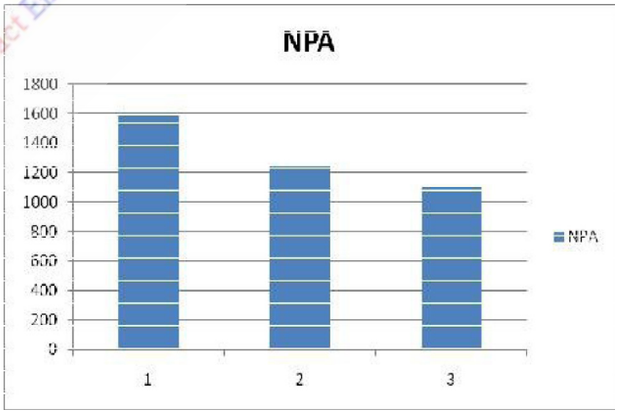

Figure .

Year	2010	2011	2012
Amount	1591.87	1246.26	1101.99

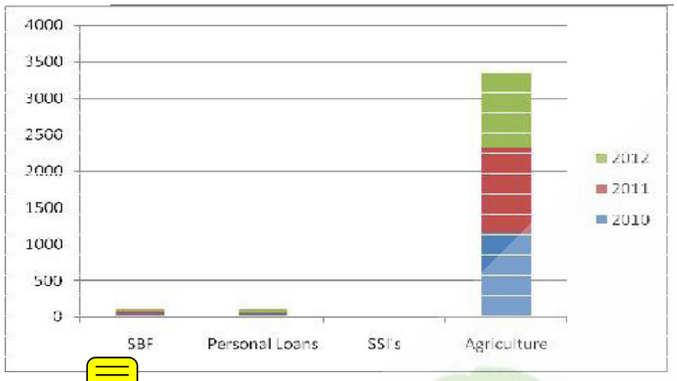

Figure .

Year	SBF	Personal Loans	SSI's	Agriculture
2010	34.3	35.08	1.09	1150.89
2011	52.12	28.99	1.10	1162.61
2012	18.99	41.85	1.00	1038.52

9.1 Findings

Bank is having highest NPA in agricultural sector as SBI, Sonipat is near by rural places and lot of agricultural transactions is conducted. Banking sector plays an indispensable role in economic development of a country through mobilization of savings and deployment of funds to the productive sectors. Currently the Indian banking sector is not in a good health. The symptoms of the disease are vastly apparent viz. rising NPAs, high labor costs, competition from mutual funds, bureaucratic hurdle etc.

10. Conclusion

From the above analysis and interpretation we can say that the paper stresses on the sound understanding of the macro economic variables. The gross NPA and net NPAs directly affected all the flows of every bank of the country, NPAs direct affect the profitability of the banks. Above tables shows the gross NPA situation and loss situation. Form the given data and information we can analyse the effects of NPAs in banking sector and it also shows the different acts given by Indian banking association and Indian government. NPA means booking of money in terms of bad asset, which occurred due to wrong choice of client[7]. Because of the money getting blocked the prodigality of bank decreases not only by the amount of NPA but NPA lead to opportunity cost also as that much of profit invested in some return earning project/asset[7]. So NPA doesn't affect current profit but also future stream of profit, which may lead to loss of some long-term beneficial opportunity[8]. Another impact of reduction in profitability is low ROI (Return On Investment), which adversely affect current earning of bank[8].

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Global Journal of Enterprise Information System

Graphs for Research

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Graph transforms raw data into information, nowadays the electronic environment leads to exponential data growth rate. To analyze such voluminous data, Big Data Analytics is the upcoming field, where Graphs plays dominant role. Further, in any research, this graphical representation of the data strengthens the data analysis to a great extent. Business Data Analytics uses statistical techniques to a great extent; the outcomes of such techniques are generally represented in the form of graphs for better interpretation and analysis. In this paper after studying lots of research work from various disciplines, a brief report of the various types of graphs is prepared along with their area of application and possible alternative techniques. The work performed in this paper is domain independent, and the outcome of the performed work will help to strengthen the research in all disciplines and domain.

Keywords: Application Areas, Big Data Analytics, Data Mining, Types of Graphs, Statistical Techniques

1. Introduction

Graphical analysis and its outcome are very much acceptable in entire research world, as it is a way to represent the research finding in precise and concise way. The graphical representation of research data strengthens the findings and hence the interpretation of data too. This technique of graphical representation is domain independent, be it psychology, computer science, management, physics etc. each and every discipline appreciates this visual data presentation mechanism.

Since it's the time of interdisciplinary studies, it is very much required that one should know about the tools and techniques of other disciplines. To speedup the interdisciplinary understanding graphs may play a vital role in research. Applying the understanding of randomness or probability or other statistical techniques to the data, one may go for data mining, big data analytics, database optimization and many more. The outcomes are very much supported, if they are presented in graphical format. In this paper is consolidated in table-1 below, where various types of graphs are tabulated along with their application areas and alternative techniques.

In the third international workshop on Distributed Statistical computing conducted in Vienna, Austria; Mayer, Zeileis and Hornik et al. presented their work on Visualizing independence using extended association plot. Their work gave insights into various graphical plots which are used to visualize the independence of data; the discussed plots are mentioned in table 1 below. The work performed by Jacoby et al.[2] and Johnson[3] gave detailed description of various graphical techniques for multivariate data analysis. The data plot reference manual designed by Filliben et al.[4,5] cumulatively discussed the graphical techniques for various typed of analysis like cluster analysis, gap analysis, multivariate analysis etc. The graphical structures used to address the stochastic phenomenon are discussed by Medhi et al[6].

The outcome of the literature survey in table 1 given below:

Table 1. Graphs and their application areas along with alternative techniques

S.No.	Graph	Application	Related Techniques
1	Age Pyramid	Genderwise Demographic variation	Histogram, Bi-histogram, Multiple Bar Diagram
2	Andrews Plot	Cluster Analysis , Detection of Multivariate Outlier, Multivariate analysis	Parallel Coordinate Plot, Icon Plot
3	Anom Plot	Quick check of ANOVA results for one way classified data	Jitter Plot, Control Chart
4	Area Chart	Gap Analysis	Line diagram, Stacked Line Chart
5	Association Plot	Contingency Table Data Representation	Mosaic Plot, Sieve Diagram, Chi-Square test for Independence in Contingency Table

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Table 1. Continued

6	Auto Correlation Plot	Quick Check over the Randomness of data	Run Test, Lag Plot
7	Bar Chart	Comparative analysis of one or more variables under different categories	Pie Diagram, Histogram, Multiple Bar Diagram
8	Bihistogram	Simultaneous detection of several parameters like location, dispersion, symmetry/ skewness, outliers	Block Plot, ANOVA, t-Test, F-test
9	Binomialness Plot	Checking goodness of fittness of data to binomial distribution	Probability Plot, Poissonness Plot
10	Cartogram	Geographical comparison of various features	Pictogram
11	C-Chart	To identify the existence of any assignable cause of variation	Process control chart, p chart, s chart
12	Chi Plot	Visual testing of variable dependence, study randomness of data set, Randomness of residual from fitted model	Run Test, Serial Correlation Test, Run Sequence Plot
13	Chi Diagram	basic Study of goodness of fit of a data set	Histogram, Residual Histogram, Residual Root gram
14	Contour Plot	Visualizing 3D plane in 2D Surface	
15	Coplot	Analysis of the effect of third variable over the relationship of two variables	scatter plot matrix, scatter diagram
16	Correlation Plot	Too study the independence of two time series	Auto-Correlation plot, Serial Plot, Lag Plot
17	Dendrogram	Visualize single linkage clustering, Visualize Euclidean distance, division of data into any number of clusters	Hierarchical clustering method, Complete Linkage Clustering
18	Deterended Probability Plot	Checking the normality of the residuals from the model	Probability plot, Normal Probability Plot, Chi-Square Test
19	Deviation Plot	Visualization of the mean of a set of observations, categorical data analysis	Bar Diagram, Residual Bar Plot, Column Plot
20	Double Y-Axis Plot	Analyze variation of two variable with respect to the third variable	Categorical Scatter Plot, Glyph Plot
21	Droughnut Chart	compare various components of the response variables	Bar Diagram, Pie Chart, Pie Icon Plot
22	Empirical Distribution Function (Edf) Plot	Check normality of data	Probability plot, Normal Probability Plot, Chi-Square Test for the goodness of Fit.
23	Error Bar Plot	comparison of the central values of a number of groups	Jitter Plot, ANOVA, t-test, F test
24	Lag Plot	Deciding suitable model for a given time series data	scatter plot, auto correlation, serial correlation
25	Lorenz Curve	Generally used in economics to describe inequality in the distribution of wealth amongst the population	Gini's Coefficient, Lorentz Asymmetry Coefficient
26	Moving Average Plot	To visualize/compare the trend value variation with actual value of data	line diagram, histogram, Run sequence plot
27	Mean Sum Of Squares (Mse) Plot	Compare distributional pattern of several time series data, also used to search best model for given time series data	Tests of Goodness to fit, Tests for Linearity of Data
28	Normality Plot	To quickly check the normality of data, a necessary condition for many statistical tests	EDF Plot, Probability Plot, Chi Square Test for Goodness to fit tests
29	Ogive	To Find Median, Quartiles, Deciles, Percentiles of a frequency distribution, Cumulative frequency for given value of variable.	Frequency Polygon, Histogram, Frequency Distribution

Table 1. Continued

30	Pareto Plot	To study the type of economy in the country	Lorenz curve, Engel's Law
31	Poissonness Plot	To check the goodness of fit of data to Poisson Distribution	Probability plot, Chi square test for goodness of fit
32	Probability Plot	Quick check to the goodness of fit test	EDF Plot, Normal Probability Plot, Chi Square Test for Goodness to fit tests
33	Quantile-Quantile (Q-Q) Plot	Compare Tail behavior of two data sets; check if the two data sets have similar distribution shapes	EDF Plot, Probability Plot, Chi Square Test
34	Residual Plot	To Check the randomness of the residuals from an model.	scatter diagram, serial correlation plot
35	Run Sequence Plot	To identify the shift in the location of data or any shift in the spread of the data	scatter plot, Lag Plot, Auto Correlation Plot

2. Conclusion

The work performed in this paper is expected to strengthen and speedup the research. The young researchers will get a glimpse and idea of various graphical techniques available at their disposal and they can identify which graphical technique is to be used for which purpose. The work performed in this paper will bring conceptual clarity to the researchers about graphs and their usage areas.

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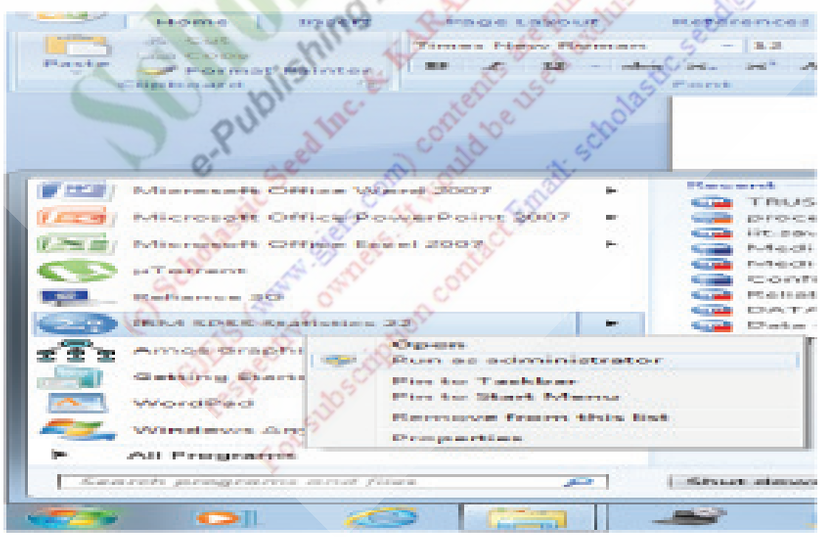
Introduction to Simple Mediation Analysis in SPSS

Nitika Sharma*

Data is analyzed using Mediation model which focuses on the estimation of the indirect effect of X on Y through an intermediary mediator variable M causally located between X and Y (i.e., a model of the form X → M → Y)[1], where X is the input variable, Y is output and M is the Mediating Variable. When researchers want to examine that how X variable exert it effects on Y variable which is commonly intervened by one or two variables denoted by M and this variable has a causal relationship between X & Y as per Figure 1 and termed as Simple Mediation Model. In this casual system there is at least one casual antecedent X variable is projected as influencing an outcome Y through a single intervening variable M. Such model establishes two pathways which influences Y by direct effect and indirect effect. In direct effect, pathways lead from X to Y without passing M. In indirect effects, a pathway of X to Y is lead through M. There are two consequent variables forming two equations and these equations can be estimated by conducting OLS regression analyses using SPSS or by using PROCESS.sps in SPSS by Andrew F. Hayes. To add PROCESS by Andrew F. Hayes in SPSS following are the steps:-

1. Download the PROCESS.sps from www.afhayes.com and save it on desktop.
2. Open SPSS as an administrator
3. Click on Utilities and select Custom Dialogues

Figure 1. A Simple Mediation Model with single Mediator variable M causally located between X & Y.



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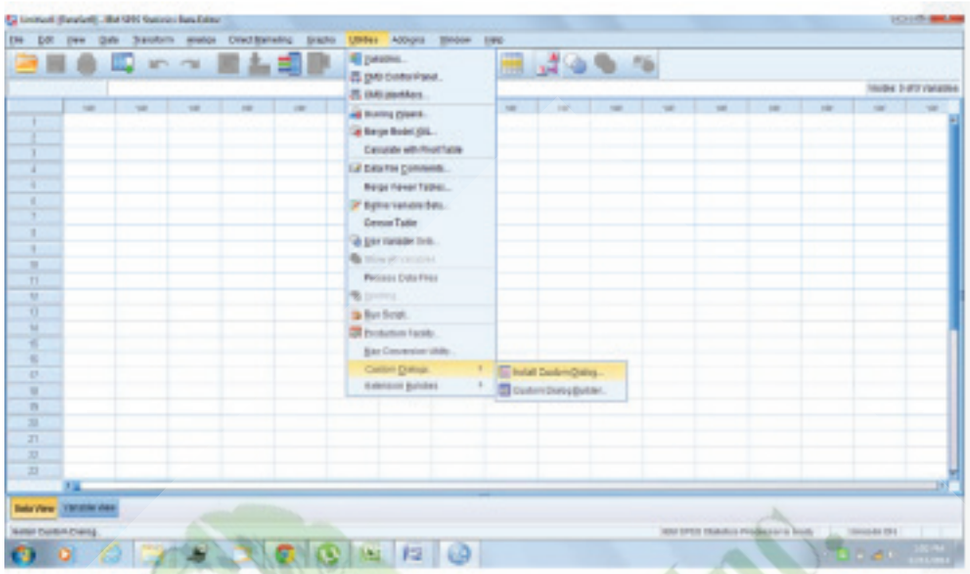

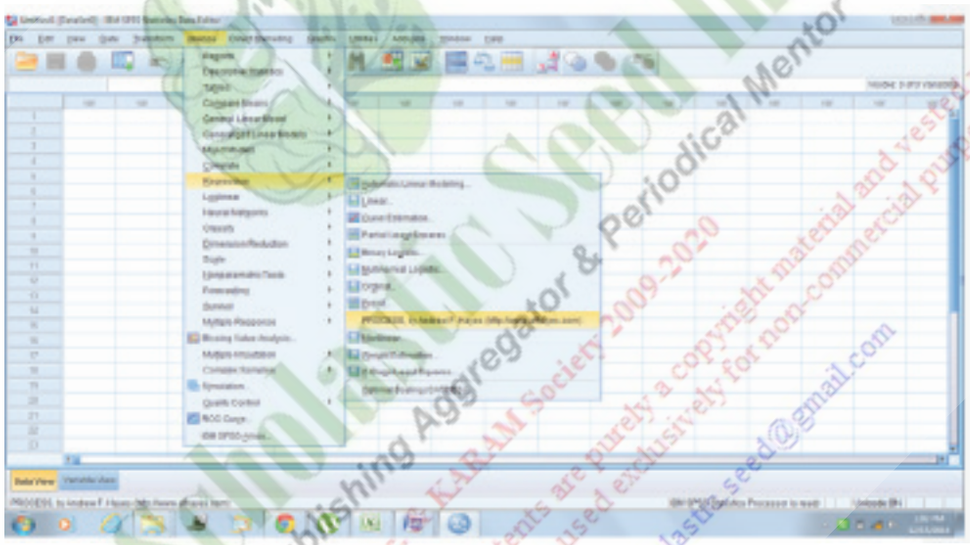

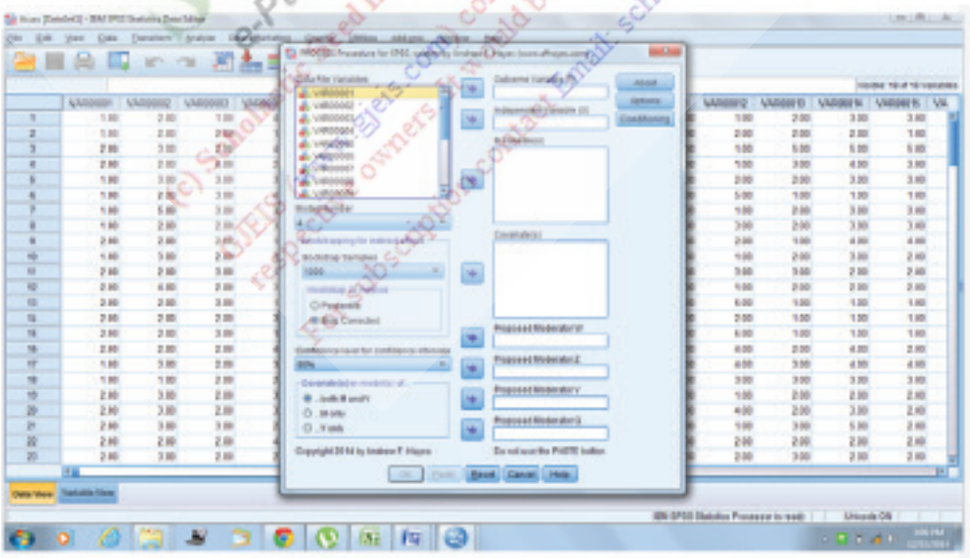

4. In Custom Dialogue, click Install Custom Dialogue and choose the file PROCESS.sps from desktop
5. From Analyze, in Regression you will find an option for PROCESS by Andrew F Hayes
6. To compute the simple mediation model fill the Outcome Variable (Y), Independent Variable (X) and Mediating Variable (M)
7. There will be two consequent variables forming two equations
   i. $M = i_1 + aX + eM$
   ii. $Y = i_2 + c'X + bM + eY$

Reference

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Analysis of Web Quality Provided by Pintwire Informatics in IT Industry: using WEBQUAL Instrument

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Abstract

The enhanced internet penetration and the increased usage of the facilities provided by the e-commerce websites, and thus generate the urge to find out the best amongst the options and the factors determining it. This paper tries to explore the optimally performing e-commerce websites in the Indian context based on the evaluation parameters highlighted by WebQual. The issue of website quality is tackled from the perspective of 'Voice of the Customer'. In this paper an online survey is administered through questionnaire with a sample of 60 respondents in Delhi & NCR, to examine the customers' satisfaction level involved with website quality that is influenced by a series of quality dimensions which hinder in delivering the best web quality in IT industry. To observe the questionnaire WEBQUAL instrument was used and response was taken to examine the different aspects associated with customer's satisfaction level. It is tested with the help of regression analysis.

Keywords: Assurance, Empathy and Responsiveness, IT Sector, Reliability, WEBQUAL

1. Introduction

Information technology is playing an important role in India today as it has changed the image from a slow growing economy to the place of innovative entrepreneurs.

The IT sector in India has opened up the opportunity of employment by 2.5 million. India is now one of the biggest IT capitals of the world.

1.1 Industry Segmentation

IT industry can be broadly classified into three sectors:
Software
IT Services
IT enabled Services (ITeS)- BPO

1.2 Present Industry Structure

The Indian IT industry comprises of well established firms as well as the emerging players that have just started up. The industry is fragmented yet concentrated. In terms of Small and Medium Enterprise (SMEs) and their offerings, they can be termed as fragmented. But, on the other hand, the leading players, their earnings and their offerings, the industry can be termed as concentrated.

The industry can be categorized as follows:

1.2.1 Tier I Players
1.2.2 Tier II Players
1.2.3 Offshore Global Services Provider
1.2.4 Pure Play BPO Providers
1.2.5 Captive BPO Units
1.2.6 EmergingPlayers

1.1.1 Tier I Players

The number of players in this category is very low (5-7).They account for almost 45 per cent of IT Services and 4–5 percent of BPO exports. These firms have increased their sales due to their strong management capabilities and Global Delivery Model (GDM). These factors have helped them to mark their presence globally. They have started new services like IT consulting, Research and Development (R & D), testing etc.

1.1.2 Tier II Players

Their revenue is greater than US $ 100 billion. The number of player are low (10–12). They account for 25 per cent of IT services and 4-5 per cent of BPO exports. Due to limited number of

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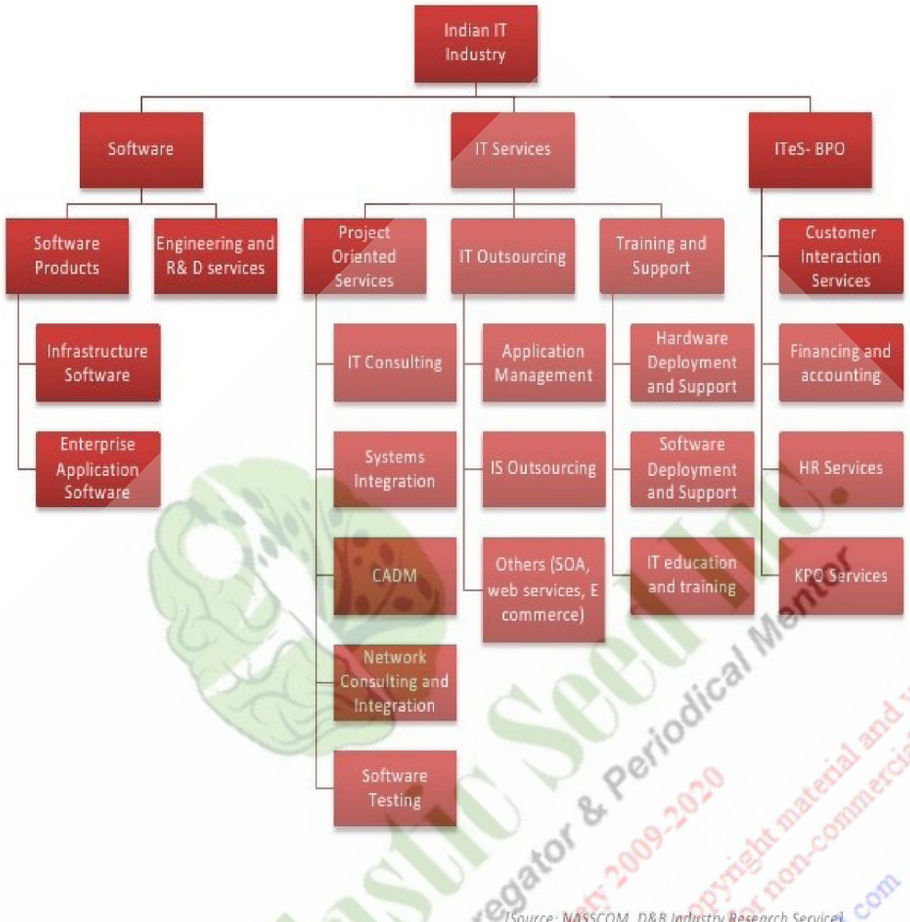

Figure 1.

Figure 2. Present industry structure.

clients and verticals, these players have registered a lower growth rate then the Tier I players.

1.1.3 Offshore Global Service Providers

This category has around 30–40 players who registered their sales revenue of US $ 10-500 billion. These players are recording inorganic growth through acquisitions in low cost destinations including India. But, due to complex local market conditions, they are facing challenges in integrating Indian operations.

1.1.4 Pure Play BPO Providers

The number of players in Pure Play BPO providers has hanged around 40–50. They account for around 20 per cent of BPO exports. These providers are facing serious challenges in terms of increasing customer expectations in quality and delivery of service.

1.1.5 Captive BPO Units

There are about 150 players in Captive BPO Units. They account for 50 per cent of BPO exports. They are also increasing their presence in Tier II cities, firstly for cost and resource considerations.

1.1.6 Emerging Players

The number of players which are emerging in this category is over 3000. They account for about 10–15 per cent of IT services exports and 5 per cent of BPO. These players are facing problems as they have limited access to markets.

2. Advantage India

2.1 Technically Skilled Professionals

There is a huge reservoir of technically skilled manpower in India. This has been proved to be as one of the most critical success factors for IT sector. The main reason behind this growth is the demographic profile of India, where over 50 per cent of the population is below 25 years of age. The growing number of world class educational institutions along with the policy for educational loans, have geared the growth of the industry.

2.2 English Speaking Population

The medium of education in India is primarily English due to India's emigrant past and this has proved to be boon to the industry. After USA, India is the largest nation in the world in terms of English speaking population.

2.3 Robu st Telecom Infrastructure

The telecom Industry in India is well established. The telecommunication network in India is the third largest network in the world and the second largest among the emerging notions in Asia. The availability of superior, robust and reliable telecom connectivity has added to the success of the whole industry in India.

2.4 Rendering Customized, End to End and Niche Services/Solutions

Indian firms have slowly graduated from giving customized solutions to the end services and also niche solutions/services, due to the increasing pervasiveness of IT and huge potential for earning foreign exchange.

2.5 Low Costs of Offshore Outsourcing

The first driver for off shoring to India was cost. But, India has proved to render quality services at affordable costs. According to AT Kearney, off shoring to India results in saving 25-60 per cent base cost.

2.6 Favourable Government Policies

Entry barriers for foreign investors have been removed in India after the liberalization of Indian economy. Therefore, liberalized FDI policies, tax exemptions, basic infrastructure, subsidies etc. from the government has definitely provided a boost to the establishment of the IT industry in India.

2.7 Quality Orientation

Indian companies are certifying themselves with ISO 9001, Six Sigma, Just in Time, COPC certificate to attract foreign clients.

2.8 Established IT hubs in India

(A). Bangalore
(B). Hyderabad
(C). NCR-Delhi
(D). Kolkata
(E). Mumbai
(F). Pune
(G). Chennai

2.9 Emerging IT Hubs in India

Slowly and steadily the Tier 2 and Tier 3 cities are also emerging to become IT hubs. The major advantages which these cities provide are:

Figure 3. India's competitive advantage.

Figure 4.

Figure 5.

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1. Higher savings in administration
2. Lower infrastructural costs
3. Large pool of talents in the form of skilled professionals

3. Website Quality

"WebQual is an instrument for assessing the usability, information, and service interaction quality of Internet web-sites, particularly those offering e-commerce facilities." To identify and check the website quality provided by the company WebQual is used with respect to the customer's satisfaction level. The five dimensions of QUALITY are (Parasuraman et al., 1988, 1991):

1) Tangibility: includes physical facilities, equipment, personnel and communication materials.
2) Reliability: is the ability to work dependably and accurately for the promised services.
3) Responsiveness: is willingness on the part of service providers for helping the customers and providing service.
4) Assurance: is employee's knowledge, courtesy and ability to convey trust and confidence.
5) Empathy: is giving attention to the individual customers.

3.1 Objectives of the Study

The objective of the research done for the company was to know about the website quality provided by Pintwire Infomatics to their customers. Moreover the secondary aim was also to find out the quality of the website service provided by the company over some pre-setted parameters by getting response from the customers who are currently using Pintwire's website service. However, if looked into the questionnaire the purpose of finding out the website quality provided by Pintwire Infomatics was a quite successful exercise.

4. Research Methodology

The questionnaire was administrated using WebQual instrument. The design used for the study is descriptive under conclusive design. It is a quantitative design where the defined hypothesis is tested on the basis of primary data which is collected with the help of a structured tool called questionnaire.

The study was done with a sample size of 60 respondents. The respondents were selected for the study from the various customers of Pintwire Infomatics. A random sampling was taken.

The research instrument or tool used for the preparation of this project is Questionnaire. A questionnaire consists of a list of questions printed in a definite order on a form to be asked from respondent.

4.1 Data Collection

The approach used for the data collection is Survey Method.

There are two sources of data collection:

1) Primary Data: Data collected for the purpose of this project is through:
   - Observations
   - Survey through Questionnaire
2) Secondary Data: Secondary data collected through:
   - Websites
   - Books

4.2 Hypothesis

- Hypothesis is a supposition or proposed explanation made on the basis of limited evidence as a starting point for further investigation.
- It is a proposition made as a basis for reasoning, without any assumption of its truth.
- The hypothesis for this study is constructed below on the basis of dimensions of quality:
- H1: Customers perceived 'Reliability' of website of Pintwire Infomatics leads to customer satisfaction.
- H2: Customers perceived 'Performance' of website of Pintwire Infomatics leads to customer satisfaction.
- H3: Customers perceived 'Responsiveness' of website of Pintwire Infomatics leads to customer satisfaction.
- H4: Customers perceived 'Durability' of website of Pintwire Infomatics leads to customer satisfaction.
- H5: customers perceived 'Features' of website of Pintwire Infomatics leads to customer satisfaction.

4.3 Analysis

Table 1 showing the regression analysis among customer satisfaction through responsiveness, reliability, empathy & assurance. to examine the relationship between these variables (responsiveness, reliability, empathy, assurance) multiple regression has been run.

4.3.1 Dimension – Responsiveness (Model 1)

Model – 1 shows the relationship between customer satisfaction and responsiveness. Here the value of p is less than 0.05. Hence, responsiveness is significant to the customer satisfaction. It implies that customer satisfaction is achieved through responsiveness.

4.3.2 Dimension – Reliability (Model 2)

Model – 2 shows the relationship between responsiveness and reliability through customer satisfaction which implies that when

Table 1. Regression analysis of customer satisfaction through responsiveness, reliability, empathy & assurance

	Model 1	Model 2	Model 3	Model 4
Responsiveness	0.812*	-0.111	-0.056	-0.070*
	0.082	0.169	0.099	0.031
Reliability		0.996*	-0.232	0.039
		0.171	0.189	0.061
Empathy			1.265*	-0.104
			0.165	0.099
Assurance				1.132*
				0.069

Note: Here * denotes the value of p is less than 0.05 which represents the significance level.

Table 2. R square

	Model 1	Model 2	Model 3	Model 4
R Square	0.75	0.88	0.96	0.99

customer satisfaction is measured then only reliability is satisfying the customers. Here the value of p in reliability is less than 0.05. Hence, it means only reliability is significant and responsiveness is insignificant to the customer satisfaction.

4.3.3 Dimension – Empathy (Model 3)

This model examines the relationship between responsiveness, reliability and empathy. It implies that when responsiveness, reliability & empathy are measured through customer satisfaction then only empathy is satisfying the customers. Here the value of p in empathy is less than 0.05. Hence, it means that only empathy is significant and responsiveness, reliability is insignificant with respect to the customer satisfaction.

4.3.4 Dimension – Assurance (Model 4)

This model examines the relationship between responsiveness, reliability, empathy and assurance. It implies that when responsiveness, reliability, empathy and assurance is measured through customer satisfaction then only two variables responsiveness & assurance are satisfying the customers. Here the value of p in responsiveness and assurance are less than 0.05. Hence, it means that only responsiveness and assurance are significant to the customer satisfaction. However responsiveness & reliability are insignificant with respect to the customer satisfaction.

From all the above analysis we conclude that responsiveness and assurance is the two main predictor of the customer satisfaction with respect to the website quality of Pintwire Infomatics Pvt. Ltd.

5. Limitations of the Study

1. The very first limitation of this study is the small sample size because it was provided by the company itself.
2. The second limitation of this study is that the sample size is confined to Delhi & NCR.
3. The results of this study cannot be generalized because the samples were heterogeneous in nature and this can be also stated as a limitation for this study.
4. The next limitation is the time constraint because the duration of training was short, due to which it was difficult to collect data.
5. Another limitation has been the cost, as it involves the collection of primary and secondary data, therefore the cost incurred was much more.
6. Sometimes customers don't used to share the true information because of ignorance and their busy schedule.

6. Conclusion

Finally, winding up this paper, we conclude that customers are the most important asset of any organization. The success of any organization ultimately depends on how efficient and effectively its customer is being satisfied. Therefore the main aim of the organization must be to satisfy its customers for longer time duration. In this study I found that Responsiveness and Assurance are fully satisfying the customers but rest of the parameters are not satisfying the customers. So the other parameters such as Reliability & Empathy need to be improved in order to satisfy the customers. Moreover it would improve reputation of the company, retain the current customers and bring new customers. Broaden their outlook, capacity and potential with the effective utilization of website quality.

7. Acknowledgement

We would like to thank Ms. Nitika Sharma, Assistant Professor, Department of Management for her constant enthusiastic encouragement and valuable suggestions without which this paper would not been successfully completed.

We would also like to thank our classmates who were ready with positive comments all the time, whether it was an off-hand

comment to encourage us or a constructive piece of criticism and a special thank to the faculty of Maharaja Agrasen Institute of Technology who arranged a good environment for us.

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Service Quality at Punjab National Bank: using SERVQUAL Instrument

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Abstract

With the introduction of liberalization policy several private and foreign banks have entered in Indian banking sector which has given birth to competition amongst banks for acquiring large market share and customer base. Banks have to deal with many customers and render various types of services to its customers and if the customers are not satisfied with the services provided by the banks then they will defect which will impact economy as a whole since banking system plays an important role in the economy of a country. It is very costly and difficult to recover a dissatisfied customer. Since the competition has grown manifold in the recent times it has become a herculean task for organizations to build loyalty, the reason being that the customer of today is spoilt for choice. It has become imperative for both public and private sector banks to perform to the best of their abilities to cater both the explicit as well as implicit needs. The purpose of this research article is to examine the customer satisfaction and measuring the service quality given by the banking industry in India. This study is cross sectional and descriptive in nature and the researcher tries to makes an effort to clarify the Customer Service satisfaction in Indian banking Sector. Descriptive research design is used for this study, where the data is collected through the questionnaire. The service quality model discovered by Zeithaml, Parasuraman and Berry[1] has been used in the present study.

Keywords: Banking Sector, Punjab National Bank, SERVQUAL

1. Introduction

Businesses need to attract and establish customer market and would need to retain it through satisfaction that is the key to its business performance (Johnson et al. 2000). In order to attain the goal, a company should have a high rate of satisfaction form its clients. The increasing competition, whether for profit and non-profit purposes, is forcing the business sectors to pay much more attention to satisfying customers. Researchers suggest that increased levels of customer satisfaction and loyalty are frequently attributed or linked to positive outcomes for a firm. Measurement o rate of customer satisfaction is also a measurement of how products and services supplied by a company meet or surpass customer expectation. It is seen as a key performance indicator. This is due to the fact that one of the factors needed in order to attain high competency and also high competitiveness is a high market share through an increased, established and well-sustained customer or client population. Industries are beginning to understand the concept that their customers, the ones who purchase their products and use their services, are the primary drivers of their position on the profitability ladder. Satisfaction is a multidimensional construct which has been conceptualized as a prerequisite for building the relationships and is generally described as the full meeting of one's expectations (Oliver, 1980), and is a feeling or attitude of a customer towards a product or service after it has been used. Many of the industries also recognizes that the support of the customer requires a complex infrastructure which should not only design, produce, and distribute a product or service which can be used by the customer without fear of defect, it should also contain a mechanism whereby the customer is effectively supported. Anderson and colleagues found out that firms with higher reported satisfaction levels also show significantly higher returns. They say that annual 1% increase in customer satisfaction is worth an 11.4% improvement in current ROI. Basically, customer satisfaction is a psychological state for which carefulness should betaken when measuring it. Competitors that are prospering in the new global economy recognize that measuring customer satisfaction is a key. It has been a growing trend today, for banks to move away from a transactional based marketing approach to a relationship-based approach that has its core the recognition of the lifetime value of the customer. Satisfaction with banking services has been an area of growing interests to managers and researchers.

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2. General Banking Scenario in India

The general banking scenario in India has become very dynamic today and the picture of Indian banking was completely different as the Government of India initiated measures to play an active role in the economic life of the nation. One of the works done by Parasuraman, Zeithaml and Berry[1] between 1985 and 1988 provides the gap between the customers expectation of performance and their perceived experiences of performance. This provides the measurer with a satisfaction gap which is objective and quantities in nature. According to Garbrand, the customer satisfaction equals perception of performance divided by expectation of performance. So we can recognize where we need to make changes to create improvements and determine if the rechanges, after implemented, have led to increased customer satisfaction . The Indian banking system is characterized by a large number of banks with mixed ownership in which the commercial banking segment comprises 40 private sector bank, 33 foreign banks and 27 public sector banks in which the Government has majority ownership. In 1991, by comparison, public sector banks share of the total assets of the banking system was a little over 90 percent. The Reserve Bank of India was nationalized on 1st January 1949 under the terms of the RBI (Transfer to Public Ownership) Act, 1948. In 1949, the Banking Regulation Act was enacted which empowered the Reserve Bank of India (RBI) to regulate, control, and inspect the banks in India. This act also provided that no new bank or branch of an existing bank could be opened without a license from the RBI, and no two banks could have Common directors. By the 1960s, the Indian banking industry had become an important tool to facilitate the speed of development of the Indian economy. The Government of India issued an ordinance and nationalized the 14 largest commercial banks with effect from the midnight of 19th July,1969. A second dose of nationalization of 6 more commercial banks followed in 1980. The stated reason for the nationalization was to give the government more control of credit delivery. With the second dose of nationalization, the Government of India controlled around 91% of the banking business of India. Later on, in the year 1993, the government merged New Bank of India with Punjab.

2.1 PNB

Punjab National Bank was founded by Lala Lajpat Rai on 19th May, 1894. The founding board was selected from different regions of India professing different faiths and a varied back ground. The common objective of proving nation with a truly national bank which would further the economic interest of country. The bank came for business on 12th April, 1895. It has been strongly growing for more than 120 years and are total 6081 branches including 5 foreign branches, 6940 ATMs as on Mar' 2014 and serving more than 8.9 crore esteemed customers. Now, PNB is among one of the largest nationalized banks and continued to provide prudent and trustworthy banking services to its customers. The Bank enjoys strong fundamentals, large franchise value and good brand image, to meet the growing aspirations of the people and compete in these tough conditions, the Bank offers wide range of products and services.

Punjab National Bank is one of the Big Four banks of India, along with State Bank of India, ICICI Bank and Bank of Baroda. It is the third largest bank in India in terms of asset size having US$6.6 billion by the end of FY 2012-13. The bank has been ranked 248th biggest bank in the world by the Bankers' Almanac.

3. Literature Review of SERVQUAL

3.1 Customer Satisfaction

Customer satisfaction, a term frequently used in marketing is a measure of how products and services supplied by a company meet or surpass customer expectation. Customer satisfaction is defined as 'the number of customers or percentage of total customers, whose reported experience with a firm, its products, or its services (ratings) exceeds specified satisfaction goals'. Customer satisfaction is the primary mental state of customer which comprise by two thing (1) expectation before purchase (2) perception about performance after purchase according to the many authors customer satisfaction is feelings of customer in the process that what has been received against what was accepted including expectation and perception about purchase decision and need and want associated with purchase decision.

3.2 Definition of Satisfaction

Satisfaction means a feeling of pleasure because one has something or has achieved something or it is an action of fulfilling a need, desire, demand or expectation. Every rationale customer compares the cost (price) and benefit (utility) of any product or services. Customers compare their expectations about a specific product/services and its actual benefits. This comparison Comparative Study of Customer Satisfaction in Public and Private global Journal of Business Management results into three types of customers: dissatisfied customers (expectations are more than actual performance of the service); satisfied customers (actual benefits realized from services are equal to or more than expectations); indifferent customers (actual performance and expectation are exactly equal). Westbrook reported that overall satisfaction is the outcome of customer's evaluation of a set of experiences that are linked with the specific service provider. It is observed that organization's concentration on customer expectations resulted into greater satisfaction and is said that satisfaction

is a function of customer's belief about fair treatment. Customer satisfaction has become important due to increased competition as it is considered very important factor in the determination of bank's competitiveness. Satisfaction is a post purchase evaluative judgment associated with a specific purchase decision. The customer satisfaction is in dispensable for the successful survival of any organization. Continuous measurement of satisfaction level is necessary in a systematic manner. To measure customer satisfaction with different aspects of service quality, Parasuraman, Valerie Zeithaml and Berry[1] developed a survey research instrument called SERVQUAL. It is based on the premise that the customers can evaluate a firm's service quality by comparing their perceptions of its service with their own expectations. SERVQUAL is seen as a measurement tool which is applied across broad spectrum of service industries. In its basic form, the scale contains 24 perception items and a series of expectation items, reflecting the five dimensions of service quality. Their findings suggest that, in reality, SERVQUAL scores measure only two factors: intrinsic service quality (resembling what is termed functional quality) and extrinsic service quality. Generic dimensions customers use to evaluate service quality are credibility, security, access communication, understanding the customer, tangibles, reliability, responsiveness, competence, courtesy.

3.3 Customer Satisfaction in Banking

Financial liberalization and deregulation has increased the competition among banks to attract potential customers. Every banker tries to provide superior services to keep satisfied customers. In India, emergence and growing popularity of Indian banking products raises competition among Indian banks. Indian banks have to face numerous challenges in the recent age. Firstly, they are competing with their peers and secondly they have to cope with the conventional banks. Satisfied customer is the real asset for any organization that ensures long-term profitability even in the era of great competition. It is found that satisfied customer repeats his/her experience to buy the products and also creates new customers by communication of positive message about it to others. On the other hand, dissatisfied customer may switch to alternative products/services and communicate negative message to others. So, organizations must ensure the customer satisfaction regarding their goods or services.

3.4 SERVQUAL Scale

Parasuraman developed SERVQUAL instrument to measure the dimensions of service quality that is frequently used by researchers. It consists of 24 items that are compiled into five dimensions: tangibility; reliability; responsiveness; assurance and empathy. This study applied five dimensions of service quality that are explained as under:

- Tangibility, which pertain to the physical facilities, equipment, personnel and communication materials.
- Reliability, which refers to the ability to perform the promised services dependably and accurately.
- Responsiveness, which refers to the willingness of service providers to help customers and provide prompt service.
- Assurance, which relates to the knowledge and courtesy of employees and their ability to convey trust and confidence.
- Empathy, which refers to the provision of caring and individualized attention to customers.

The Figure 1 reflects expectation-outcome experiences of customers among bank customers. Customer satisfaction leads to better profitability by retaining existing customers and to attract new ones. Every organization deploys a reasonable amount to have satisfied customers. Satisfied customer leads to delighted customers that eventually create the sense of brand loyalty among customers.

3.5 SERVQUAL Questions

For actual survey respondents, instructions are also included, and each statement is accompanied by a seven-point scale ranging from "Strongly Agree - 7" to "Strongly Disagree - 1". Only the end points of the scale are labeled; there are no words above the number 2 through 4.

3.5.1 Tangibles

1. Banks will have modern-looking equipments.
2. The employees at banks will be tidy in their appearance.
3. The physical facilities at admirable banks will be visually pleasing.
4. The ATM's of PNB bank are technologically well equipped.
5. Tangible Materials (e.g., brochures or statements) associated with the service will be visually attractive in an excellent bank.
6. The ATM's of this bank are adequate in numbers and the services they providing.
7. The internet banking services of this bank are widespread over a larger area.

3.5.2 Reliability

8. Banks act upon the service, right the first time.
9. When banks promise to do something by a certain time, are they able to do so.
10. When customers have a trouble, excellent banks show a sincere interest in solving the problem.
11. Banks will make available their services at the time they assure to perform so.
12. Banks persist on error the free proceedings.

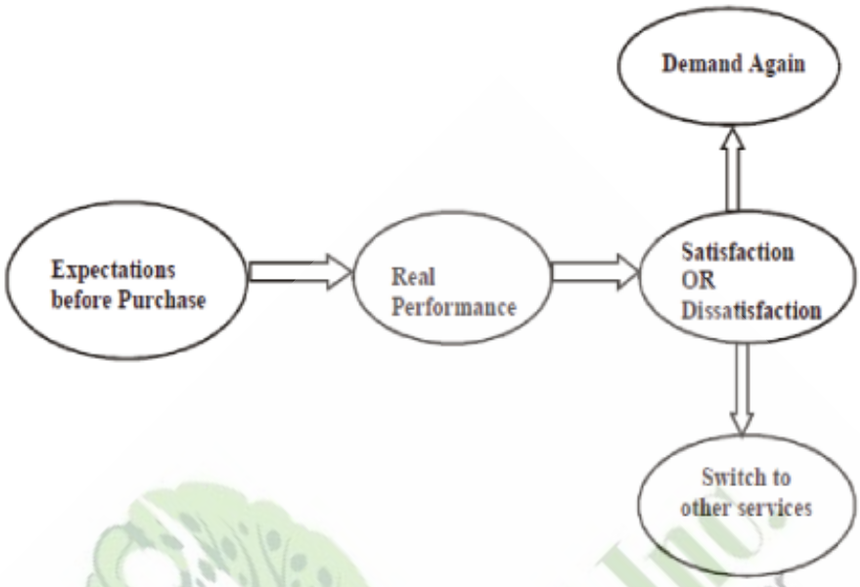
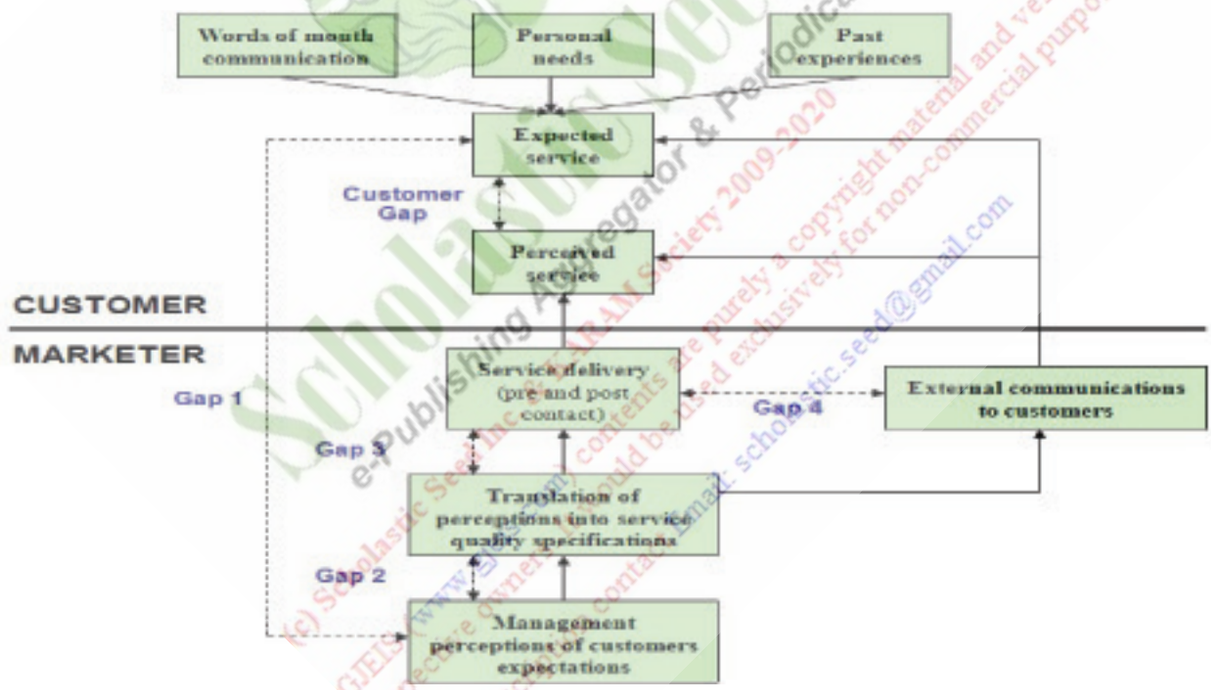


Figure 1. Expectation-Outcome Experience of Customers Source: Generated.

GAP model of service quality



3.5.3 Responsiveness:

13. Employees of banks will enlighten customers exactly when service will be performed.
14. Employees in the banks will give quick service to customers.
15. Employees of banks are always enthusiastic and energetic to help customers.
16. Employees of banks are never too active to act in response to customer requests.

3.5.4 Assurance:

17. The activities & behavior of employees at the banks will instill coolness in customers.
18. The customers of banks will feel safe & secure in their transactions & dealing.
19. Employees & staff of banks are constantly courteous & polite with customers while they are delivering the services to them.

20. Employees of banks are having the knowledge to answer customer questions and queries.

3.5.5 *Empathy:*

21. Banks give customers individual attention.
22. Banks have operating hours convenient to all their customers.
23. Banks have the employees who give customers personal attention.
24. Employees of Banks will understand the specific needs of their customers.

These findings do not undermine the value of Zeithaml, Parasuraman, and Berry[1] achievement in identifying some of the key underlying constructs in service quality, but they do highlight the difficulty of measuring customer perceptions of quality. Anne Smith notes that the majority of researchers using SERVQUAL have omitted from, added to, or altered the list of statements purporting to measure service quality.

4. Objective of the Study

The main objective of the study is to measure service quality of banking sector of INDIA especially PNB with SERVQUAL model.

The major objectives of the present study are -

- To study the importance and impact of service quality and customer satisfaction of PNB.
- To find the most important dimensions of service quality that affect customer satisfaction in PNB
- To measure the satisfaction level of current customer in PNB in INDIA.
- To recommend some guidelines to ensure quality services of PNB in INDIA.

5. Research Methodology

The questionnaire was administrated using SERVQUAL instrument. This questionnaire was mailed to 110 respondents for participation within Delhi and NCR. However, a total of 60 respondents reverted back on the same. So, the response rate was 55%. Out of the 60 respondents 55 (i.e. around 90%) had visited PNB. The research paper studied the customer's perception and their expectations in the service quality of the PNB with SERVQUAL instrument with 22 items. In the questionnaire a 7-point Likert scale was used where 1 was for Strongly disagree and 7 was for strongly agree. There were no right or wrong answers - all we were interested in is a number that best showed their expectations and perceptions about the service quality of PNB.

6. Data Analysis

In the paper the following hypothesis is formulated to test the service quality of the PNB.

H1 = The Customer's perception and expectations are equal in case of PNB.

$H1_0$= The Customer's perception is lower than the expectations in case of the service quality of PNB.

Here, H1 is the null hypothesis on which the testing needs to be done and $H1_0$ is the alternate hypothesis. In the t-test applied, the P value (or the critical value) that we have used here is 0.05. So, if the results are less than the critical value then the null hypothesis would be rejected and the alternate hypothesis will be selected and if the results are greater than the critical value, the null hypothesis will be accepted and the alternate hypothesis will be rejected.

As per the graph below, we can clearly see that the expectations are higher than the perception of the customers towards the service quality of PNB. There is a Gap between the customer's expectations and the customer's perception.

This is as per the analysis of the responses received from the respondents.

Now, we will analyze the same result through the t-test analyses where the perception score and expectation score are taken into consideration for all the 22 items and the results for each tangibles, reliability, responsiveness, assurance and empathy is analyzed. These are analyzed as follows:

We can see that the P value after the t-test of the tangibles that we got is less than the critical value of 0.05 that we have selected for the test. So, we will reject the null hypothesis and accept the alternate hypothesis. This means that the physical facilities, equipment, personnel and communication materials of PNB are lower than the customer's expectations.

We can see that the P value after the t-test of the Reliability that we got is less than the critical value of 0.05 that we have selected for the test. So, we will reject the null hypothesis and accept the alternate hypothesis. It implies that the ability to

Table 1: Calculations to obtain unweighted SERVQUAL score

Average Tangibles SERVQUAL Score	0.89
Average Reliability SERVQUAL Score	1.05
Average Responsiveness SERVQUAL Score	1.31
Average Assurance SERVQUAL Score	1.48
Average Empathy SERVQUAL Score	1.37
Total	6.1
AVERAGE (= Total / 5) UNWEIGHTED SERVQUAL SCORE	1.22

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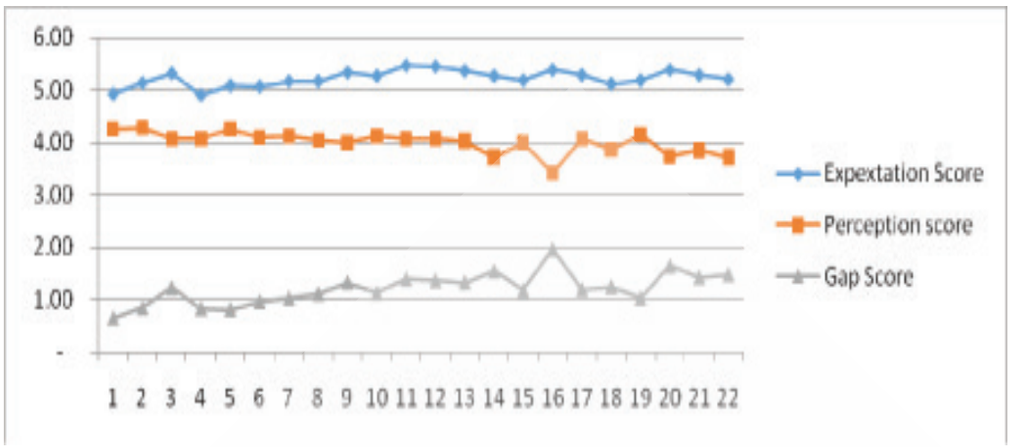

Figure .

t-Test: Paired two sample for means for tangibles

	Variable 1	Variable 2
Mean	4.175	5.066666667
Variance	0.013425926	0.039074074
Observations	4	4
Pearson Correlation	-0.165746219	
Hypothesized Mean Difference	0	
df	3	
t Stat	-7.274816726	
P(T<=t) one-tail	0.002680366	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.005360731	
t Critical two-tail	3.182446305	

t-Test: paired two sample for means for reliability

	Variable 1	Variable 2
Mean	4.11	5.163333333
Variance	0.010222222	0.011166667
Observations	5	5
Pearson Correlation	-0.711083162	
Hypothesized Mean Difference	0	
df	4	
t Stat	-12.31428478	
P(T<=t) one-tail	0.000124919	
t Critical one-tail	2.131846782	
P(T<=t) two-tail	0.000249838	
t Critical two-tail	2.776445105	

perform the promised services dependably and accurately in case of PNB is lower than the expectations of the customers.

In this case as well we can see that the P value we got after the t-test of the Responsiveness is less than the critical value of 0.05 that we have selected for the test. So, we will reject the null hypothesis and accept the alternate hypothesis. It implies that perceived service quality through responsiveness is not matching with the expectations. The service providers at PNB are not readily willing to help customers and provide prompt service.

We can see that the P value after the t-test of the Assurance that we got is less than the critical value of 0.05 that we have selected for the test. So, we will reject the null hypothesis and accept the alternate hypothesis. It implies that the knowledge and courtesy of employees and their ability to convey trust and confidence is lower than what it is expected out of them.

In case of Empathy as well, the P value derived after the t-test is less than the Critical value of 0.05. So, in this case as well we will reject the null hypothesis and accept the alternate hypothesis. It implies that the perception regarding the Caring, individualized attention given to customers at PNB is less than the expectations of the customers.

t-Test: paired two sample for means for responsiveness

	Variable 1	Variable 2
Mean	4.079166667	5.3875
Variance	0.001736111	0.008402778
Observations	4	4
Pearson Correlation	-0.551515152	
Hypothesized Mean Difference	0	
Df	3	
t Stat	-21.84210199	
P(T<=t) one-tail	0.000105024	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.000210049	
t Critical two-tail	3.182446305	

t-Test: paired two sample for means for assurance

	Variable 1	Variable 2
Mean	3.804166667	5.279166667
Variance	0.091365741	0.006736111
Observations	4	4
Pearson Correlation	-0.764194388	
Hypothesized Mean Difference	0	
Df	3	
t Stat	-7.998766072	
P(T<=t) one-tail	0.002039198	
t Critical one-tail	2.353363435	
P(T<=t) two-tail	0.004078397	
t Critical two-tail	3.182446305	

t-Test: paired two sample for means for empathy

	Variable 1	Variable 2
Mean	3.863333333	5.233333333
Variance	0.030194444	0.010555556
Observations	5	5
Pearson Correlation	-0.420104365	
Hypothesized Mean Difference	0	
Df	4	
t Stat	-12.97427603	
P(T<=t) one-tail	0.000101808	
t Critical one-tail	2.131846782	
P(T<=t) two-tail	0.000203616	
t Critical two-tail	2.776445105	

7. Conclusion and Recommendation

After analyzing the results of the SERVQUAL with the help of the graph as well as the t-test we can say that the perceptions of the Customer regarding the service quality of PNB is less than his expectations of what an excellent bank's service should be. So, PNB cannot be categorized as an excellent bank as per the responses we have received from the customers. It is not meeting the expectations of the customers on any of the parameters, namely, Tangibles, Reliability, Responsiveness, Assurance and Empathy. This means that:

- The physical facilities, equipment, personnel and communication materials of PNB are below the customer's expectations.
- The ability to perform the promised services dependably and accurately in case of PNB is below the expectations of the customers.
- The service providers at PNB are not readily willing to help customers and provide prompt service.
- The knowledge and courtesy of employees and their ability to convey trust and confidence are below what it is expected out of them.
- The employees at PNB are not caring and do not provide any individual attention to their customers.

The PNB needs to improve on the above parameters so as to enhance its quality of services and increase the customer satisfaction through improves physical arrangements, providing timely services according to the promise made, more willingness to help customers and providing individual attention.

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8. Limitations of the Study

Completing this research paper was not that easy. There were certain limitations that we had to face. These are discussed below:

- The Study was based in Delhi and NCR only. If we could have gathered responses from the respondents from outside Delhi then our results would have been more accurate.
- The sample size for our research was small where only 55% of the customers responded to the questionnaire.
- Customers did not show interest in filling the questionnaire. It took a lot of effort to convince them to fill the questionnaire.

9. Acknowledgement

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BOOK REVIEW

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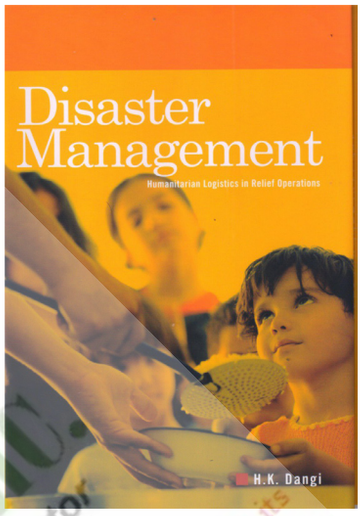
Disaster Management: Humanitarian Logistics in Relief Operations

H. K. Dangi



Citation

Review

Disasters are both natural and manmade that result in widespread loss to living beings and property. Even though completely avoiding disasters may not be possible; their impact can be managed if interventions are planned and executed properly in time. Having appropriate relief logistics to manage such eventualities is crucial to disaster management. Adding humanitarian angle to relief operations gives human face to disaster management. Current book is written with an objective of providing knowledge on disaster management with particular emphasis on humanitarian logistics in relief operations.

In its sharp seven chapters, the book traces the significance of humanitarian logistics of disaster management in a disaster prone country like India and offers practical solutions based on the rich experience of the author and best practices available around the world. The first chapter sets the stage for deeper discussion on the subject with definitions of terminologies such as disaster management and disaster management models. This chapter also dwells on disaster management in India and global best practices. The second Chapter analyses disaster relief logistics. The essential components of relief management and the role of logistics are explained with different scenarios in mind. This chapter also explains the structure of relief chain, logistics flow and the right supply chain design for humanitarian relief.

The critical success factors in disaster management are dealt with in the third chapter. Case studies on Indian Ocean Tsunami 2004 (UNDMT – Feb 2005) and Kosi Flood (2008) offer many useful lessons to be learned for future disaster management efforts.

In the fourth Chapter, the author focuses on the behavioural issues involved in disaster management. It identifies different leadership styles and motivation required for effective disaster management. This chapter provides several suggestions for choosing different leadership styles to deal with specific situations. The author also provides insights on a number of approaches available to motivate people involved in disaster relief.

The fifth Chapter is deals with performance management. In this chapter performance of non-profit sectors and commercial supply chain are explained in detail. It also details various factors influencing performance of relief chain at different levels such as coordination level, need assessment, preparedness level, behavioural factors and relief environment.

Relief Inventory Management is the subject matter of discussion in Chapter six. This chapter centers particularly on how

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operation management tools can be applied in management of relief logistics. Author's long standing experience in the field comes handy in providing a very detailed picture about inventory management, inventory control and humanitarian relief inventory. This chapter explains very well about disaster relief inventory characteristics (i.e) acquisition, storage, distribution.

The last concluding Chapter presents a larger picture about the challenges involved in disaster management and proposes people-centric approach to disaster relief. This chapter traces the innumerable challenges associated with the relief phase and insists on the importance of logistics function and the management of associated supply networks in humanitarian relief sectors. This chapter offers vital solutions for improvement of disaster management through humanitarian logistics.

The author rightly observes that though the National Disaster Management Act, 2005 improved response mechanisms in India, many states are yet to respond to the implementation of the law adequately.

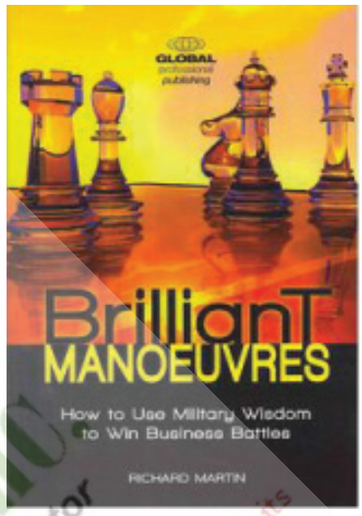
Another significant point mooted in the book is that it calls for the involvement of corporate sector in relief operations, not merely as a philanthropic act, but as a responsibility. The author argues that if the sectoral expertise of corporate players is utilized in relief operations, it will add strength to disaster management agencies. This is a very valuable suggestion that should be considered by the government as well as the corporate houses while implementing the mandatory corporate social responsibility provisions under the latest Companies Act, 2013.

This book is a notable contribution in the field of disaster management. This book will immensely benefit not only disaster management professionals, emergency preparedness managers and risk consultants but also government officials, community leaders, corporate houses, research scholars and students.

BOOK REVIEW

Brilliant Manoeuvres: How to Use Military Wisdom to Win Business Battles

Richard Martin



Citation

Martin, R (2015). Brilliant Manoeuvres: How to Use Military Wisdom to Win Business Battles.

Review

Business executives and entrepreneurs see themselves as modern day warriors, fighting off competitors and conquering new markets. They talk about attacking competitors, defending turf, firing warning shots, establishing beachheads, bypassing the competition, and so on.

Brilliant Manoeuvres – How to Use Military Wisdom to Win Business Battles is for those executives and entrepreneurs who are looking to create and sustain competitive advantage and to lead their teams in the face of determined competition and rivalry.

Based on the author's experience as a soldier, business consultant and entrepreneur, it explains how and why military leaders and planners actually think and operate. It translates this into terms that business people can readily apply to their own reality so they can survive and thrive. It is a practical guidebook, and not just another set of exhortations to "lead from the front" or to 'win without fighting'. It even demonstrates how some military methods cannot be applied in management.

The structure and thematic presentation of the topics will be valuable to people operating at all levels of an organization, with principles and concepts that can be applied to strategic, operational, tactical, organizational, technical and leadership situations. It will guide managers and entrepreneurs who must manage risks and exploit change in competitive and increasingly unpredictable environments.

Do you want to know how military leaders really think and operate?

Do you want to use that expertise to win your own business battles?

This book, based on the author's 25 years of military experience, plus years as a business consultant and an entrepreneur, explains how and why military leaders and planners lead and succeed. It will appeal to a wide readership of managers and entrepreneurs who must manage risks and exploit change in competitive and increasingly unpredictable environments.

Contents

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• Depth • All Around Defence • Mutual Support • Active Defence • Summary • Chapter 4: Selection and Maintenance of the Aim: The Principle of the Objective • The Master Principle of War (and Business) • The Art of Saying No • Developing Strategic Objectives: Ends, Ways, and Means • Translating Objectives Into Action: Nested Hierarchical Planning • Determining Your Role: Mission Analysis • Mission Command Is Focused Initiative • Summary • Chapter 5: You Can't Be Everywhere at Once: Exploiting Limited Resources • Recognize Your Own and Your • Competitors' Centres of Gravity • Designate Your Main Effort • Economy and Mass • Speed and Agility • Flexibility through Multiple Roles • Summary • Chapter 6: No Plan Survives Contact with the Enemy • Planning, Friction, and the Fog of War • The Four Horsemen of the Apocalypse • Assumptions • Scenarios •Options • Simplicity • Opportunism • Summary • Chapter 7: Is Military Intelligence Really an Oxymoron? • Adopt a Wide Area of Interest • Seek Comprehensive Understanding • Intelligence Is Everyone's Business • Turning Information into Intelligence • Reconnaissance • Summary • Chapter 8: Bucks, Bullets and Bully Beef: Logistics and the Sinews of War • Eggheads and Bean Counters: Rational Analysis • Marshal Forces to Maximize the Chances of Success • Establish a Bridgehead to Expand into Hostile Territory • Develop and Maintain Robust Lines of Communication • Summary • Chapter 9: "The Moral is to the Physical as Three is to One": Morale, Cohesion and the Motivation to Perform • The Real Test of Morale Is Adversity • Morale is Different from Mood - It's Built on Unity and Cohesion • Faith in the Mission and Vision • We All Need to Belong to Something Bigger than Ourselves • True Motivation and Discipline Come from Within • Summary • Chapter 10: Follow Me: The Art of Leadership • Competence Is the Heart of Leadership • Transformational Leadership Leads to Exceptional Performance • Leadership Must Be Ethical • Ten Principles of Military Leadership that Everyone Can Use • Summary • Conclusion • Index

Biographical Note of the Luminary in an Area of IS

Professor Abid Haleem
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Dr. Abid Haleem is Professor of Mechanical Engineering and is Honorary Director, Internal Quality Assurance of Jamia Millia Islamia (A Central University by an Act of Parliament) New Delhi, India. He has headed Mechanical Engineering and MBA (Evening) program in this University. Dr. Abid has also been Honorary Visiting Professor to IITD.

With more than 125 research papers and two books to his credit, he has produced more than 18 PhD. He has more than 27 years of teaching and research experience at graduate and masters level.

Presently he is President, Global Institute of Flexible Systems Management and is Regional Editor Asia Pacific, for Global Journal of Flexible Systems Management. He has been conferred with Fellowship of AGBA. He has professional and life membership of IIIE, ISME, ISTE, GIFT etc.

He has also visited various academic institutions and Industries at USA, U.K., Singapore and Australia. Besides having consulting experience, he provides leadership in taking up different types of academic and allied programs in the field of Management and Technology.

He has been on the Board of Telecommunications Consultants India Ltd. as an Independent Director. Presently he is member of Ad hoc Task Force (ATF) of Performance Management Group of Cabinet Secretariat.

He is on the advisory/research boards of various institutions and involved in various institutional activities related to policy planning, administration, accreditation, curriculum design, admission, evaluation and examination process etc. His teaching and research involves Systems Management, Technology Management, Supply Chain Management and allied areas of Industrial Engineering.

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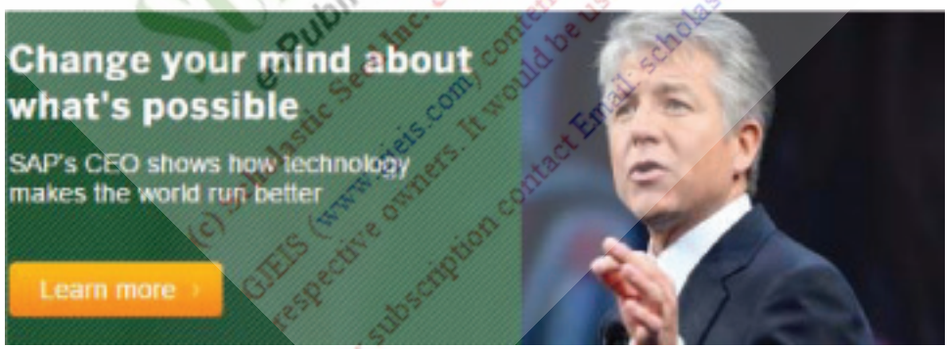
SAP SE is a German multinational software corporation that makes enterprise software to manage business operations and customer relations. Headquartered in Walldorf, Germany, with locations in more than 130 countries, SAP SE is the world leader in enterprise software and software-related services. Founded in April 1, 1972, Weinheim, Germany with a group of Founders: Hasso Plattner, Klaus Tschira,Claus Wellenreuther, Dietmar Hopp, Hans-Werner Hector

SAP SE (Systems, Applications & Products in Data Processing) is a German multinational software corporation that makes enterprise software to manage business operations and customer relations. SAP is headquartered in Walldorf, Baden-Württemberg, Germany, with regional corporate offices in the United States and Canada. The company has developed several independent software products to help business better meet their customer needs [enterprise resource planning] an application systems and management known as (SAP ERP), its enterprise data warehouse product – SAP Business Warehouse (SAP BW), Materials Management [MM] module software, a Sales and Distribution [SD] application that aids the company in adding customer sales transactions, Controlling [CO] module when a company needs internal reporting. All of these software applications can be purchased à la carte or in a software package known as SAP Enterprise Central Component [ECC] system. A new feature recently added to the SAP functionality is Sybase mobile products and the in-memory computing appliance SAP HANA.



Bill McDermott, Co-C.E.O. of SAP

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The eLearning Africa Supporting Transformation trust

www.easttrust.org

EAST is a non-profit organisation that aims to make a lasting positive impact on education in Africa.

We do so by investing in Africa's educators, practitioners and research communities and leveraging the potential that Information Communication Technologies (ICTs) can offer. One of the main efforts of the trust is to support people without the financial means to attend eLearning Africa. The annual eLearning Africa conference provides a pan-African network for professionals in the field of technology-supported learning and a platform for people who want to develop future forms of education in Africa.

At EAST, we believe that involving participants in concrete programmes is the best way to provide them with the practical skills they need to succeed in their work or studies and enter workforce with strong experience and networks. It's about having a lasting, positive impact. This is why we have developed five different programmes that aim to target the over-arching topics of the conference, with the people that could be benefiting from them the most.

- The Women in ICT Programme
- The Health Ambassador Programme
- The Entrepreneurship Programme
- The Social Media Reporter Programme
- The Education Programme

The running of EAST isonly possible with the assistance of likeminded foundations, companies and individuals to allow more people to take part in the unique networking and knowledge-sharing opportunities provided by EAST. Would you like to donate to EAST or would your organisation like to partner with us? Please contact info@easttrust.org

Becoming an Organisational Donor

Partnering with the eLearning Africa Supporting Transformation can be a rewarding experience as we are able to provide your organisation with unique exposure and networking opportunities

Enabling Great Ideas by Supporting African Participation

through the annual eLearning Africa Conference - helping us both to achieve our goals more effectively. We are particularly interested in long term partnerships, as a means of working together to ensure the most effective outcomes for programme participants and your organisation.

Key Benefits of donating to the eLearning Africa Supporting Transformation programmes:*

- Your organisation's logo and advertisement will be placed on key conference materials and publications.
- Your organisation's logo and a link to your organisation's website will be included on the eLearning Africa website.
- A press release of your organisation's donation will be circulated to our extensive international media database.
- A short story of your organisation in the form of an article or an interview will be included in our newsletter, circulated to over 100,000 targeted addresses worldwide.
- Further benefits such as exhibition space, brochure distribution, high-level networking opportunities and meetings can be arranged and are dependent on the level of contribution.

* The stated benefits vary depending on the extent of your organisation's contribution. Please contact info@easttrust.org for more information.

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https://www.createspace.com

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Mr. Raju Vanapala

Founder-LearnSocial

Website: http://www.learnsocial.com

LearnSocial began with a simple idea: anyone should be able to learn any thing from any where. We've been rethinking learning from past 2 years. We wanted to revolutionize social learning across the globe.

LearnSocial has been founded by Mr. Raju Vanapala, who revolutionised messaging in India through popular messaging destination way2sms.com. Now we're a growing team of engineers and instructors on a mission to change the way people learn by bridging the gap between what they learn and what they need to be successful in life.

We are the fastest growing online learning destination for Instructor led online live courses. At LearnSocial, we bring you the most cutting edge and industry relevant courses curated with industry leaders and taught by passionate, experienced industry experts with hands on knowledge. All our courses are crafted to help you grow and advance your career.

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We are Building a Unique Learning Technology Company:

1. We are Building World's most Loved Learning Destination

We want to build a truly global platform for every one including students, jobseekers and professionals to be their most trusted destination for learning. It's a big vision, but we believe in it.

2. We are Consumer Centric

Every learner will be assigned a dedicated support guy who will be there with the user during the entire course. They can assist you for all your questions including subject matter and course experience.

3. We Deliver Great Learning Experience

All our courses are taught by passionate experienced industry professionals with hands on real world knowledge. At learn social, we are very serious about bridging the gap between academic and real world skills.

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We are proud to say, we are a learning technology company. We continuously build in-house tools and products to improve the quality of learning experience to our learners.

5. We Hire Smart Creative People

We strongly believe great companies can be built through great people. We hire smart ambitious creative people who are ready to shoulder big challenges in order to deliver the wow kind of learning experience to our global learner base.

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http://www.maas360.com

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Fiberlink's mission is to enable our customers to securely extend mobile technologies out to the edges of their organizations. We believe that working in the mobile age should be easy and safe for employees and the IT organizations that support them. Our solutions provide secure access to corporate resources and information from mobile devices, without compromising the user experience, data security or privacy. We are proud of our customer-first culture and integrate it into everything we do.

We are known for:

- Personalized service throughout the entire customer lifecycle
- Rapid deployments with smooth, efficient installations
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- Effortless scalability for mass deployments of devices and applications
- Competitive, flexible pricing options tailored to a variety of customer needs
- Proven security with FISMA and SOC-2 Type II certifications

Our Platform

MaaS360 is an enterprise mobility management (EMM) platform that enables IT to deliver end-to-end security and management through the implementation of:

- Mobile Device Management
- Mobile Application Management
- Mobile Content Management
- Secure Mail
- Secure Browser
- Mobile Expense Management
- Laptop Management

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Awarded 4th rank in the list of Top 10 Cyber Lawyers around the World

Pavan Duggal

Website:http://pavanduggal.com

"Top 10 Cyber Lawyers around the World", May 2013 Listed as the 4th among the top 10 Cyber Lawyers around the World by cyberlawelightenment.blogspot.in.. To view the entire list: http://cyberlawelightenment.blogspot.in/2013/05/top-10-cyber-lawyers-around-world.html

Pavan Duggal is one of the pioneers in the field of cyberlaw and is Asia's leading authority on cyberlaw. He is a practicing advocate, Supreme Court of India and a cyberlaw consultant. He is the President of cyberlaws. Net, The cyberlaw consultancy which is internet's unique and first ever consultancy dedicated exclusively to the new field of cyberlaw.

He is the founder President of cyberlaw Asia; Asia's pioneering organization committed to the passing of dynamic cyberlaws in the Asian continent. Cyberlaw Asia is engaged in the process of creating greater awareness about cyberlaws in different countries of Asia.

Pavan has been associated with UNESCO on ethical, legal, and societal challenges of cyberspace in Asia and the pacific. He is the consultant to United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) on the Asia Pacific Conference on Cyber crime and Information Security 2002.

He is member of nominating committee of the Internet Corporation for Assigned Names and Numbers (ICANN). He is also member of the Membership Advisory Committee and Membership Implementation Task Force (MITF) of ICANN and is involved in the legal issues of at large membership of this global body.

He is the member of the Public Interest Registry's. Org Advisory Council.

Pavan is doing a lot of work in the area of intellectual property rights in the electronic medium and in cyberspace. He is a member of the World Intellectual Property Organization Arbitration and Mediation Centre's Panel of Neutrals. He has acted as an arbitrator in various domain name disputes of the World Intellectual Property Organization.

Pavan is the member of AFACT Legal Working Group of UN/CEFACT.

Pavan has vetted and reviewed the e-primer on cyberlaw prepared by e-ASEAN Task Force as an expert authority.

He is the cyberlaw correspondent for the Global Legal Publication JURIST: The Legal Education Network.

He is advising the Controller of Certifying Authorities, Ministry of Information Technology, Government of India on issues concerning the Indian cyberlaw namely. The Information Technology Act, 2000. He is also the member of the IT Act Legal Advisory Group constituted by the controller of certifying authorities.

Pavan has also the credit of having done pioneering work in the field of Convergence Law. Pavan Duggal has testified before the Indian Parliamentary Standing Committee on Information Technology, on the Communication Convergence Bill, 2001.

Pavan is the Founder President of Cyberlaw India. He has also founded The Cyberlaw Association. He is the Founder of Cyber arbitration, an online system of alternative dispute resolution.

Being a prolific writer, he has authored three books entitled 'Cyberlaw in India', 'Cyberlaw the Indian Perspective' and 'Indian Convergence Law'. Pavan writes regularly, inter-alia amongst others, every sunday his cyberlaw column 'Brief Cases' in The Economic Times.

He has been invited as a distinguished speaker on various issues of cyberlaw at numerous International Internet Fora, conferences and exhibitions like India Internet World, 1998, 1999, 2000 & 2001 at New Delhi; E-biz-2000, E-BizIndia-2000, E-Governance Conference; Apricot 1999 at Singapore; and Regional Meeting of Infoethics (UNESCO), 2000 at Beijing.

Pavan has been invited as a speaker on Cyber Terrorism at the 11th Annual AMIC conference in Perth, Australia. He was also plenary speaker at the Regional Seminar on the Root Causes of Terrorism and the Role of Youth organized by the World Youth Foundation on the subject of Cyber crime and Cyber Terrorism. He was invited by the Mauritian Management Association to conduct the first of its kind seminar on cyberlaw in Mauritius in August 2002.

CLEAN 'n' GREEN RURAL INDIA SUMMIT 2015 (C'n'GRIs 2015)

Knowledge Resource Development & Welfare Group announces "Clean 'n' Green Rural India Summit 2015" in MARCH, 2015 at New Delhi, Knowledge Resource Development & Welfare Group, Delhi

1. Objectives

1. To bring Farmers' Community, Corporate Sector, Entrepreneurs, Opinion Leaders, Policy makers, investors, Public Utility Services, Scientists, R&D teams, Innovators, NGOs etc. at one platform to share and showcase their climate resilient initiatives.
2. To facilitate networking between Farmers, Entrepreneurs, Corporate Sector with R&D Teams, Scientists, Investors and Financial Institutions so as the innovations and technologies in climate resilient agriculture can be replicated and commercially sustained at a larger scale.
3. To promote climate resilient initiatives of Corporate Sector, Entrepreneurs, Farmers, Financial Institutions, Public Utility Services, Scientists, NGOs etc. through Exhibition and publication of their success stories in the Summit Souvenir (to be released at C'n'GRls).
4. CnGRls 2015 also aims to celebrate Clean & Green Leaders Awards of the year 2015 to recognise and showcase clean & green initiatives and achievements of people, companies, and organizations exemplifying leadership in clean and green best practices.

2. Salient Feature

i. Conference on nClimate resilience of small & marginal farmers: Issues and the capacity building"
ii. Exhibition on clean and green products, technologies and initiatives
iii. Publication of Summit Souvenir in Print and electronic mode
iv. Extensive coverage in print & electronic media
v. Networking opportunities with investors and Financial Institutions

vi. Discussion forum for latest on climate resilient technologies and smart practices
vii. Success story featured in Summit proceedings
viii. Clean & Green Leaders Awards of the year 2015
ix. Best Paper Awards
x. Best Project Awards (Student)
+ many more

3. Who Should Attend

CnGRIs 2015 features conference sessions, exhibition on clean and green products, technologies and initiatives, Clean & Green Leaders Awards of the year 2015, Best Paper Awards and networking events to provide perspectives, insights, recognition and opportunities.

During this one-day summit leading scientists, farmers, entrepreneurs, corporate executives, investors, policy makers, and opinion leaders will participate to share and showcase their climate resilient initiatives and in robust discussion on contemporary topics on sustainable agriculture and food security.

3.1 Who Will Benefit from attending CnGRIs 2015

i. All individuals, communities and organizations promoting climate resilient technologies, agriculture, and rural infrastructure.
ii. All individuals, communities and organizations from India and abroad that demonstrate leadership in initiating and implementing Clean & Green best practices.

4. Join us @CnGRIs 2015

You may participate in CnGRIs 2015 as

i. Paper presenter
ii. Lead Speaker
iii. Exhibitor
iv. Sponsor
v. Advertiser in Summit Souvenir
vi. Delegate
vii. Recipient of "Clean 'n' Green Leader flward 2015"

5. Steps to Participate@CnGRIs 2015

i. Download the appropriate form from our website www.krdwg.org
ii. Fill the form
iii. Email the tilled in form at coordinator@krdwg.org

Should you have any query, please feel free to call Mr. Balram at +91 9634721242 or email it at coordinator@krdwg.org

We wish all the participants a very happy and prosperous new year

Ajay Arora
Director-projects
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OPP. JNU-East Gate, Qutab Institutional Area, New Delhi-ll0067
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The new important dates:

Final paper submission deadline	20th February 2015
Author registration deadline	20th February 2015
Observer registration deadline	15th March 2015

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Author's submission will be published in both the conference proceeding under The Business & Management Review (Printed copy) and online. ABRM utilises double blind review process for all submitted papers.

For further details please see the conference brochure and visit our website onwww.abrmr.com or send us an email on editor@abrmr.com.

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The database is intended to provide objective content and powerful tools that let the search, track, and measure and collaborate. GJEIS is a part of many member-controlled academic publication databases, directory and discussion forum and other academic community. The Indexing/listing in various databases can definitely add a feather in a cap of GJEIS and further facilitate in academically sound. GJEIS believes that more rapidly and wider sharing of the outputs of the scholarly research process amplify the impact of research, fuels the progression of knowledge, and amplify the return on research investments